



**Insurance market research:
The determinants of price sensitivity and the key
role played by intermediaries**

By

Sérgio Dominique Ferreira Lopes

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(Branch of Marketing and Strategy)

Supervisors:

Prof. Helder Vasconcelos

Prof. João Proença

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BIOGRAPHICAL NOTE

Sérgio Dominique was born on the 29th January 1984, in Paris, France. He is graduated in Economic and Consumer Psychology, holds a postgraduate course in Brand Management, and a Ph.D. in Social Psychology. He has been as Ph.D. student at the School of Management and Economics of the University of Porto since 2011.

Currently he is Adjunct Professor at the School of Management of the Polytechnic Institute of Cavado and Ave. Previously, he was a researcher at the PSICOM-USC research center (Consumer Psychology Research Center of the University of Santiago de Compostela), Department of Methodology, Faculty of Psychology of the University of Santiago de Compostela. He was also a researcher at the Faculty of Economic and Business Sciences (Department of Business Organization and Marketing) of the University of Vigo.

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ABSTRACT

The insurance sector plays a very important role worldwide, providing stability in markets. Insurers, premium, intermediaries, bundling strategies, customers' satisfaction, customers' price sensitivity and claims management are some of the most important issues in the insurance sector. However, the number of insurance studies from the perspective of customers is very little, especially in services marketing literature.

Therefore, purpose of this investigation is threefold: i) to study the importance that insurance customers give to premium, insurers, intermediary recommendations, and bundling strategies, as well as the relationship between attributes and consumer price sensitivity and price elasticity of demand; ii) to identify the strategic importance of attributes' order presentation, identifying the right moment to present premium, bundling strategy and intermediaries' recommendation to insurance customers; iii) to study the insurance supply management through customer's satisfaction with intermediaries and insurers, as well as the preferences of customers in the purchase decision-making process.

In order to study the attributes' importance, we used Conjoint Analysis with Full Profile. A two-stage cluster analysis was performed to segment the market. Regarding the study of the strategic importance of attributes' order presentation, Kruskal-Wallis test was performed. Finally, in order to study customers' satisfaction, structural equation modelling was performed and Multidimensional Scaling unfolding model was applied to understand customers' preferences in chapter 3.

Research findings indicate that price sensitivity is affected by the level of purchase involvement, bundled discounts, and brand loyalty. Also, brand loyalty has a strong influence on customer acceptance of bundled discounts. Price bundling increases firm's revenues and profits. Regarding the effect of attributes' order of presentation, primacy and recency effects were detected, as well as a transfer effect related with the level of importance of attributes that precede and succeed attributes. Finally, results show that insurance customers' satisfaction is statically related to intermediaries and not to insurers, and that intermediaries play a central role in the management of customers claims, as well as in premium acceptance.

This investigation presents theoretical and practical contributions and managerial suggestions regarding customers price sensitivity, bundling strategies, salesperson approach to customers and the strategic importance of insurance intermediaries.

Key words: Insurance, Price sensitivity, Price elasticity, Price bundling, Intermediaries, Strategic order of product attribute presentation, Customers satisfaction, Customers preferences, Supply chain.

RESUMO

O setor de seguros desempenha um papel fundamental a nível internacional, proporcionando estabilidade nos mercados financeiros. As seguradoras, os distribuidores (mediadores), os prémios, a sensibilidade dos consumidores face ao preço, as estratégias de bundling, a gestão de sinistros e a satisfação dos clientes são aspetos críticos no sector segurador.

Neste contexto, o objetivo desta investigação é triplo: i) estudar a importância que os clientes do sector segurador atribuem ao prémio, às seguradoras, às recomendações dos distribuidores, a estratégias de bundling, bem como a relação entre atributos e sensibilidade dos consumidores face ao preço e a elasticidade do procura face ao preço; ii) compreender qual a importância estratégica da ordem de apresentação dos atributos no sector segurador, identificando qual o melhor momento para apresentar cada atributo; iii) estudar a gestão da cadeia logística através da satisfação dos clientes com os distribuidores e com as seguradoras, bem como as suas preferências no processo de tomada de decisão compra.

No âmbito do estudo da importância atribuída aos atributos, aplicou-se a Análise Conjunta com Full Profile. Para segmentar o mercado, recorreu-se a uma Análise Cluster de duas fases. Relativamente ao estudo da ordem estratégica da apresentação de atributos, utilizou-se a estatística de Kruskal-Wallis. Finalmente, para estudar a satisfação dos consumidores recorreu-se a modelos de equações estruturais, e a análise das preferências dos consumidores no capítulo 3 foi obtida através da aplicação do Escalonamento Multidimensional através do modelo *unfolding*.

Os resultados indicam que a sensibilidade dos consumidores face ao preço é influenciada pelo nível de envolvimento financeiro dos consumidores na compra, estratégias de bundling e por comportamentos de lealdade. Além disso, a lealdade influencia fortemente a aceitação de estratégias de bundling. As estratégias de bundling permitem aumentar as receitas e os lucros no sector segurador. No que concerne ao efeito da ordem de apresentação dos atributos, foram detetados efeitos de recência e de primazia, bem como um efeito de transferência ou efeito âncora. Finalmente, os resultados mostram que os mediadores/distribuidores desempenham um papel

preponderante na gestão da cadeia logística do sector segurador. Concretamente, constata-se que a satisfação dos clientes do mercado segurador depende em maior medida dos distribuidores do que das seguradoras. Paralelamente, os distribuidores desempenham, também, um papel central na gestão de sinistros, bem como numa melhor aceitação do prémio.

Esta investigação apresenta claras contribuições teóricas e práticas, bem como sugestões para uma gestão otimizada do sector segurador.

Palavras-chave: Setor segurador, Sensibilidade ao preço, Elasticidade da procura, Price bundling, Mediadores, Ordem estratégica da apresentação de atributos, Satisfação de consumidores, Preferências de consumidores, Cadeia de fornecimento

Next, a graphical abstract is also provided for a more intuitive understanding.

GRAPHICAL ABSTRACT

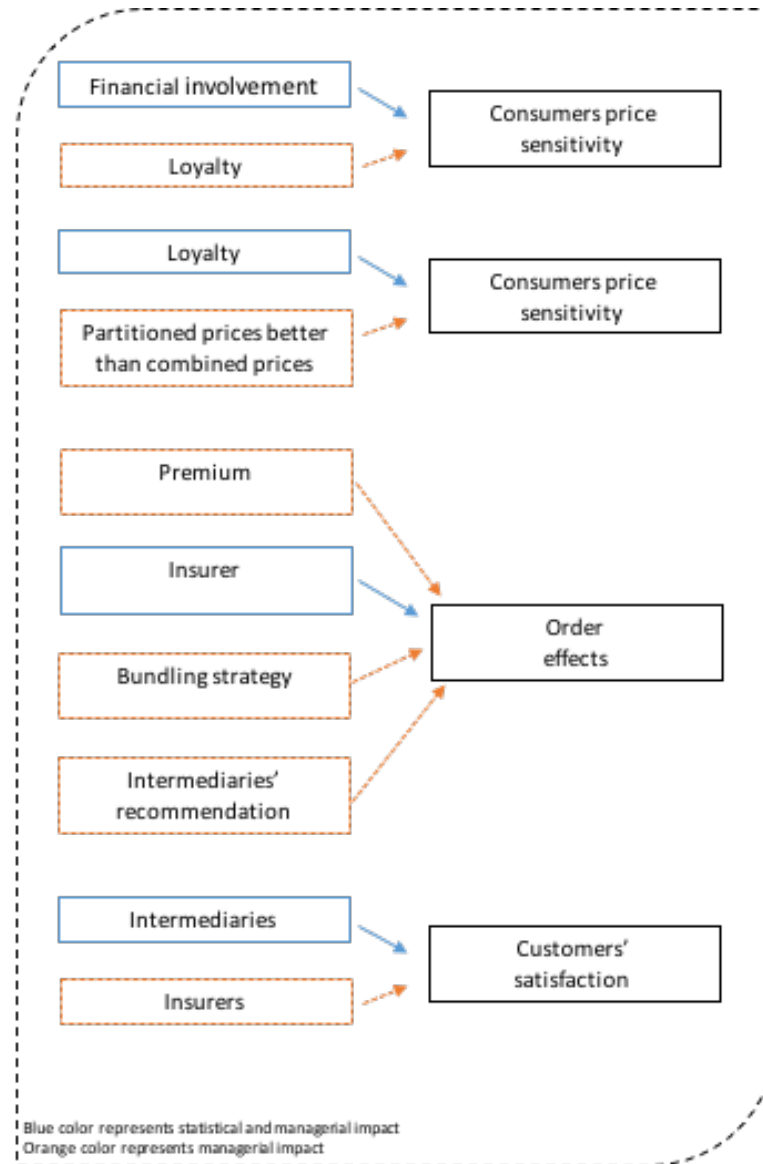


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INTRODUCTION

RESEARCH SCOPE

The insurance sector plays a major role in leveraging the economies of many countries, providing stability and confidence in markets. Yet, the number of insurance studies from the perspective of customers is very little, especially in services marketing literature.

Premium is one of the most important elements in the insurance market (Barroso and Picón, 2012; Rai and Medha, 2013) but literature does not identify the concrete importance it has for customers.

Pricing strategies has been a much-discussed issue in the management, marketing and economy literature (Goldsmith and Newell, 1997; Ramirez and Goldsmith, 2009; Li, Green, Farazmand, and Grodzki, 2012; Roy, 2012; Brophy, 2013a). Bundling strategies are very important in terms of business management, being price bundling strategies or product bundling strategies (Ferrell and Hartline, 2005, p. 286; Rao and Kartono, 2009, p. 15; Gerdeman, 2013; Brito and Vasconcelos, 2015).

Involvement is another important element for customers (Zaichkowsky, 1988; Datta, 2003; Russell-Bennett, McColl-Kennedy and Coote 2007), whether with advertisements (Krugman, 1977), products (Hupfer and Gardner, 1971), with purchase decisions (Clarke and Belk, 1978), or pricing decisions (Rao and Kartono, 2009, p.30).

Insurance distribution channels are quite particular in the insurance sector. Banks, postal, brokers, intermediaries and insurers are the main distribution channels in Portugal (Portuguese Association of Insurance, 2014). However, insurance marketing literature does not seem very clear about how insurance salesperson should approach customers. For example, the order in which products' characteristics are presented to customers play an important role in terms of sales optimization (Buda and Zhang, 2000;

Gatzert, Huber and Schmeiser, 2010; Horgarth and Einhorn, 1992). Also, intermediaries' recommendation can strongly influence customers' behaviors (O'Loughlin and Szmigin, 2007; Eckardt and Rathke-Doppner, 2010; Robson and Sekhon, 2011; Brophy, 2013a). Therefore, the supply chain management plays an important role in the insurance industry, namely, in customers' satisfaction and preferences. Furthermore, customers' satisfaction is one of the most studied concepts in management and marketing literature (Bernhardt, Donthu and Kennet, 2000; Edvardsson, Johnson, Gustafson and Strandvik, 2000; Orsingher, Valentini and Angelis, 2010), being important to investigate the role of intermediaries in customers' satisfaction.

METHODOLOGY

In this investigation, a mixed approach based on qualitative and quantitative methodologies was used. In order to identify the most important characteristics of the insurance industry, three focus groups were conducted. Two focus groups composed by eighteen (18) auto insurance consumers of the B2C market were conducted and third focus group composed by six insurance intermediaries (B2B) were conducted. The quantitative approach was used for the other analyzes.

Concerning chapter 1, several quantitative methods were used. Specifically, Conjoint Analysis was performed in order to measure the concrete importance of key attributes of the insurance business, such as premium, brand (insurer), bundling strategy and intermediaries' recommendation, as well as the relationship between attributes and consumer price sensitivity. Regarding market segmentation, a two stage post-hoc segmentation was performed through Cluster Analysis. Finally, the traditional formula to estimate price elasticity of demand was used.

In chapter 2, Conjoint Analysis and bivariate methods such as Shapiro-Wilk and Kruskal-Wallis were performed in order to study the importance of the strategic order of products' attributes presentation in the insurance market.

In chapter 3, a structure equation modeling (SEM) was developed in order to understand the specific impact of intermediaries and insurers on consumer satisfaction. Multidimensional Unfolding was performed in order to compare the structure of consumers' preferences and the insurance supply chain process.

This brief methodological presentation is only a summary of the methods and techniques employed in data analyzes. A detailed and specific description is presented in each of the papers (chapters 1, 2 and 3) of this thesis.

STRUCTURE

Chapter 1 analyzes the determinants of price sensitivity in the insurance sector, trying to fill this gap in the literature. This chapter also analyzes the importance that insurance customers give to premiums, insurers, intermediary recommendations, and bundling strategies. This study shows how it is possible to decrease price sensitivity.

Chapter 2 focuses on identifying the most strategic order of products' attributes in the insurance sector. Literature has highlighted the effects of using different attributes' order of presentation. However, literature does not provide empirical results of this issue in the insurance sector. Primacy and recency effects were detected, as well as a transfer effect related with the level of importance of attributes that precede and succeed attributes. But more important, it is possible to identify a specific attribute presentation order that decreases price importance and increases the impact of bundling strategies and intermediary's recommendation.

Chapter 3 emphasizes the structure of the insurance market from the customers' perspective, both in terms of customers' satisfaction, as well as in the purchase decision-making process.

Chapter 4 presents general conclusions, theoretical implications in terms of Marketing and management, managerial implications concerning the insurance sector. Limitations regarding the research are also presented, as well as some further research questions.

	Paper 1	Paper 2	Paper 3	General implications
Purpose	This paper investigates the importance that insurance customers give to premiums, insurers, intermediary recommendations, and bundling strategies. The relationship between attributes and consumer price sensitivity is also studied.	Sales management plays an important role in firms' profit. The main goal of this work is to identify the right moment to present price to insurance customers, as well as the insurer bundling strategy and intermediary's recommendation.	Insurance market has enormous churn rates because customers' purchase decision-making process and claims management relies heavily on intermediaries. The purpose of this study is to investigate the role played by intermediaries in customer's satisfaction, as well as in the preferences of customers regarding the purchase decision-making process.	<p>Intermediaries play a central role in the insurance market dynamics and insurance supply chain, as well as in customers' satisfaction.</p> <p>For intermediaries prefer particular insurers, they must be aware of the suggestions and feedback from intermediaries. This would be especially important in terms of claims management services.</p> <p>Price bundling increases insurances and intermediaries' revenues and profits. So, they should me used more often.</p> <p>In order to decrease the importance of premium, salespeople should present first the insurer, followed by the bundling strategy, the intermediary's recommendation and, finally, the premium.</p>
Methodology	Conjoint Analysis was performed in order to study the importance of the attributes. Cluster analysis was applied to segment the market.	Conjoint Analysis was applied in order to measure attributes' importance of each series. Kruskal-Wallis test was performed in order to study possible effects of order of product attribute presentation.	Structural Equation Modeling was used in order to study the impact of insurers and intermediaries in consumers' satisfaction. The Multidimensional Scaling unfolding model was used to analyze consumer preferences.	
Findings	Price sensitivity is affected by the level of purchase involvement, bundled discounts, and brand loyalty. Also, brand loyalty has a strong influence on customer acceptance of bundled discounts. Price bundling increases a firm's revenues and profits.	Primacy and recency effects were detected, as well as a transfer effect related with the level of importance of attributes that precede and succeed attributes.	Intermediaries play a key role in the insurance market, concretely, in customers' satisfaction, in the management of customers' claims, and in the purchasing process (premium acceptance).	
Implications	There is very little evidence regarding studies on price sensitivity in the insurance sector, mostly because, in many countries, premiums are strongly regulated. This study shows how it is possible to decrease price sensitivity.	Salesperson can improve their approach to customers, decreasing the importance given to price and increasing the positive impact of bundling strategies and intermediary's recommendation in sales.	Intermediaries play a key role in the insurance market, concretely, in customers' satisfaction, in the management of customers' claims, and in the purchasing process (premium acceptance).	
Originality	The study contributes to the service marketing literature and marketing of the insurance sector by providing empirical evidence of the impact of price bundling on insurance customer sensitivity, with the use of a methodological and experimental approach.	It was possible to identify a specific order of attributes presentation in the insurance sector, considering other attributes that not only the price.	This study analyzes the insurance supply chain management including three different players: i) customers; ii) intermediaries; iii) insurers. Consumers' preferences in terms of purchasing behavior and satisfaction rely more in intermediaries than in insurers. An original and brief questionnaire to measure insurance customers' satisfaction is tested with acceptable psychometrics properties. Findings can be used by insurers and intermediaries to improve the efficiency of the insurance market supply chain.	

TABLE 1 – RESUME OF THE THREE PAPERS

CHAPTER I – DETERMINANTS OF CUSTOMER PRICE SENSITIVITY: AN EMPIRICAL ANALYSIS

ABSTRACT (1)

Purpose: Consumer price sensitivity has become a major issue over the past few decades. This paper investigates the importance that insurance customers give to premiums, insurers, intermediary recommendations, and bundling strategies. The relationship between attributes and consumer price sensitivity is also studied.

Methodology: To calculate the importance of attributes and part-worth utilities, we performed a Conjoint Analysis with Full Profile. To segment the market, we performed a two-stage Cluster Analysis. The traditional formula for estimating price elasticity of demand was also used.

Findings: Price sensitivity is affected by the level of purchase involvement, bundled discounts, and brand loyalty. Also, brand loyalty has a strong influence on customer acceptance of bundled discounts. Price bundling increases a firm's revenues and profits.

Theoretical implications: There is very little evidence regarding studies on price sensitivity in the insurance sector, mostly because, in many countries, premiums are strongly regulated. This study shows how it is possible to decrease price sensitivity.

Practical implications: Insurers and intermediaries can benefit from price bundling strategies in order to increase sales and profit.

Originality: The study contributes to the service marketing literature and marketing of the insurance sector by providing empirical evidence of the impact of price bundling on insurance customer sensitivity, with the use of a methodological and experimental approach.

Keywords: Insurance sector, Consumer preferences, Market elasticity of demand, Price sensitivity, Bundling strategies.

1. INTRODUCTION

In late 2007, a subprime crisis was triggered in the United States of America, creating one of the most severe financial crises. Globalization quickly brought the crisis to the European economies, creating problems in financial markets and enormous mistrust due to the uncertainty and incapacity to develop medium- to long-term action plans.

In this sense, the insurance sector plays a major role in leveraging the economies of many countries, providing stability and confidence in markets (e.g., buying sovereign debt). In the specific context of the industries operating within services (e.g., utilities, healthcare, financial services, insurance, etc.), the relationship between consumers and organizations is very dynamic (Bolton and Lemon, 1999).

Many factors influence the buying decisions of customers and price sensitivity in the insurance industry, including premiums (Barroso and Picón, 2012; Rai and Medha, 2013), intermediary recommendations (O'Loughlin and Szmigin, 2007; Robson and Sekhon, 2011; Brophy, 2013a), involvement (Zaichkowsky, 1988; Datta, 2003), and pricing strategies such as price bundling (Weston, 2007, as cited in Brophy, 2014b).

Related to premiums, Barroso and Picón (2012) found that the price paid for insurance products is very important with regard to a Spanish insurance customer's perception of time, money, or the effort involved in switching. Related to that, Rai and Medha (2013) found that premiums play an important role in the loyalty of insurance customers. Along these lines, the present article aims to measure the importance that Portuguese insurance customers give to premiums.

Related to insurance distribution, an intermediary's recommendation plays an important role in insurance sales (see O'Loughlin and Szmigin, 2007; Robson and Sekhon, 2011; Brophy, 2013a). Because in Portugal insurance intermediaries are market leaders in terms of sales (see Table 2), this investigation analyzes the importance of intermediary recommendations in a customer's buying decision process.

Structure of distribution channels		
	Non-life (%)	Life (%)
Intermediaries	89.7	95.3
Tied and captive agents	17.1	77
Brokers	17.6	1
Multi-brand intermediaries	54	17.3
Reinsurance	0	0
Of which: banks	16.1	76.7
Of which: postal	0	8.3
Direct Sell	9.8	4.5
Office	8.1	4.5
Internet	0.3	0
Phone	1.5	0
Others	0.5	0.2

TABLE 2: STRUCTURE OF INSURANCE DISTRIBUTION CHANNELS IN 2013
(PORTUGUESE ASSOCIATION OF INSURANCE, 2014)

Concerning consumer involvement, the literature states that customers having a greater involvement with a product are less sensitive to price (see Zaichkowsky, 1988; Datta, 2003). In this context, this investigation analyzes how different levels of financial involvement (low or below average vs. high or above average) actually affect consumer price sensitivity.

Another factor that affects consumer price sensitivity is loyalty. Several studies show that loyal customers are very important because they contribute to increasing corporate profits (Reichheld and Sasser, 1990; Bennett and Rundle-Theile, 2005; Rauyruen and Miller, 2007), they spend more than nonloyal customers (Russell-Bennett, McColl-Kennedy and Coote, 2007), and also because they tend to be less sensitive to price (e.g., Ramirez and Goldsmith, 2009; Yoon and Tran, 2011; Roy, 2012), with special relevance in the insurance industry (O'Loughlin and Szmigin, 2007; Robson and Sekhon, 2011; Brophy, 2011; Rai and Medha, 2013; Brophy, 2013a; Brophy, 2013b). Because the insurance sector has one of the highest churn rates (Jacada, 2008; Deloitte,

2012; Soeini and Rodpysh, 2012), the present paper also investigates and compares the price sensitivity of loyal customers vs. nonloyal consumers.

Finally, the present paper also explores the possible benefits of implementing a price-bundling strategy in the insurance sector; specifically, combining home insurance (noncompulsory) with auto insurance (compulsory).

Therefore, the main contribution of this study is to bridge a gap in the service marketing literature related to the insurance industry that is less studied, i.e., consumer price sensitivity. For example, the role played by customer loyalty behaviors or even the role of bundling strategies in consumer price sensitivity is a less-studied issue in the insurance industry. One of the reasons leading to the low number of studies that focus on this issue is the strict regulation insurance premiums (especially motor insurance) in some countries (see Cummins and Tennyson, 1992; Tennyson, 1997; Weiss, Tennyson and Regan, 2010; Derrig and Tennyson, 2011; Brophy, 2012).

Regulation of premiums for automobile insurance

Automobile insurance is compulsory in countries such as the United States of America, United Kingdom, Germany, France, Spain, and Portugal. This being the case, and using the words of Weiss, Tennyson, and Regan (2010):

Automobile insurance is a compulsory purchase for most drivers in the United States and represents a significant expense for many. Partly because of this, many states regulate automobile insurance prices. Although there are several stated goals of automobile insurance regulation, the objective of much rate regulation is premium affordability.

In this sense, regulators intend to achieve adequate automobile insurance rates, i.e., “that insurance is readily available in the market, but not so high that insurance is unaffordable to drivers” (Weiss, Tennyson, and Regan, 2010). However, it is frequent that this regulation process produces a significant adverse impact on insurance costs (see Tennyson, Weiss, and Regan, 2002; Derrig and Tennyson, 2011). But, according to

Llewellyn (1999, as cited in Brophy, 2014a), the reasons for regulation of financial services are as follows:

- To sustain systemic stability;
- To maintain the safety and soundness of financial institutions; and
- To protect the consumer.

In this context, the level of auto insurance premium regulation strongly influences an insurer's degree of freedom when determining premium levels. However, the insurance sector in Portugal does not have such strict regulations. Only recently, the former Portuguese Institute of Insurance changed its designation to Portuguese Insurance and Pensions Funds Supervision Authority (Autoridade de Supervisão de Seguros e Fundos de Pensões). This change to “supervisory authority” is being perceived by insurers and intermediaries as an indication of the power of regulation, because of the severe financial crisis of the last years. This supervisory authority bases its regulation on having a minimum premium, to maintain the safety and soundness of the financial institutions, i.e., the insurance industry as a whole.

In short, the objectives of this paper are twofold:

- To measure the importance of certain attributes on the global purchasing behavior process of insurance customers (studied attributes are premiums, insurers, intermediary recommendation, and price-bundling strategies). This is a very important issue for actuaries, as they have to understand the importance or contribution of a specific goal to the overall decision (Brockett and Xia, 1995).
- To study the effect of bundling strategies on retention of customers, on the one hand, and on attracting new customers, on the other.

2. THEORETICAL FRAMEWORK

2.1. PRICING AND PRICE SENSITIVITY

Pricing has been a much-discussed subject over the past few decades for two reasons. First, because of its direct impact on the revenues of enterprises; and second, because it is difficult to estimate (Ferrell and Hartline, 2005). On this last issue, not every consumer is willing to pay the same price for a given product, which increases the difficulty of setting the “right price” (Ramirez and Goldsmith, 2009).

Consequently, it is important to understand how consumers react to different prices and which are the relevant factors affecting those reactions. According to Ferrell and Hartline (2005), pricing strategy involves both market acceptance and the overall profits of companies. The more information managers have about ratings and the reactions of consumers over the price, the higher the success in responding to the goals of corporate profitability (Ramirez and Goldsmith, 2009). Two important concepts arise in this context as follows:

- Price elasticity is an aggregate measure related to the market as a whole and does not inform how individuals or specific groups (clusters) react to a certain price. Economists consider price elasticity an essential element (Ramirez and Goldsmith, 2009).
- Price sensitivity reflects how consumers feel about paying a certain price for a product. In addition, individual reactions to price are very useful for marketing purposes (Goldsmith and Newell, 1997).

Managers need detailed information about the elements that influence consumer price sensitivity in order to understand how to increase product attractiveness without reducing the selling price (Ramirez and Goldsmith, 2009) or to be able to compensate for a price increase with a reinforced mix of alternative attributes valued by consumers. Ramirez and Goldsmith (2009) propose a model to measure price sensitivity based on four elements as follows:

I. The perceived similarity between brands

Perceived similarity between brands can be defined as the consumers' global perception that differences between products of different brands are small (Iyer and Muncy, 2005). The more different a brand is perceived, the more consumers are willing to pay more for a product of a certain brand (the opposite also occurs). In this context, consumers become more sensitive to price (less willing to pay a price) when they perceive few differences between brands (Light, 1997).

There is no literature that shows whether this element is critical in the case of the Portuguese insurance sector. Also, because auto insurance is compulsory and there is a standard core (after decree-law no. 72/2008, April 16th), it seems that insurer brands are perceived with great similarity.

II. Innovative consumers

Innovative consumers always want the latest products (Goldsmith and Hofacker, 1991) and they also use products more frequently, researching a greater amount of information about a product category (Goldsmith, 2000; Goldsmith, 2002). Several studies show a negative correlation between innovation and price sensitivity (Goldsmith and Newell, 1997).

In the context of this study, the level of innovation of auto insurance in Portugal is virtually nonexistent. In this regard and in order to maximize the parsimony of the methodology used, the authors decided not to incorporate this element in this investigation. Also, innovation does not seem to be significant in auto insurance because there is an automatic repurchase due to the compulsory nature of this product.

III. Involvement with the product

The more involved consumers are with a product, the less sensitive they are about price (Zaichkowsky, 1988; Datta, 2003). However, involvement is a multidimensional construct, based on cognitive and affective dimensions (Richins, Bloch, and McQuarrie, 1992). A person can present different kinds of involvement as follows:

- With advertisements (Krugman, 1977);
- With products (Hupfer and Gardner, 1971);
- With purchase decisions (Clarke and Belk, 1978).

Involvement can also be analyzed from a different level, specifically between customers and firms (Goodman, Fichman, Lerch and Snyder, 1995). Also, highly involved individuals invest more time and energy in their relationship with a firm. According to Knox and Walker (2003), customer involvement affects the final decision during the purchasing procedure, and the more involved customer tends to be more loyal. According to Russell-Bennett, McColl-Kennedy, and Coote (2007) “the level of involvement determines the level of decision importance in the purchasing process, and business customers are likely to display attitudinal loyalty for high involvement purchases”. For example, “price endings” can decrease high-price perception (see Shoemaker, Mitra, Chen and Essegaier, 2003; Chang and Chen, 2014; Choi, Li, Rangan, Chatterjee and Singh, 2014). According to Rao and Kartono (2009, p.30), customer involvement is also related to the degree of customer involvement with the pricing decision:

When firms know where their customers come from and are more confident about their projected sales figures, they can more easily set a price that is more acceptable to customers and at the same time minimizes risks to profitability. Accordingly, in terms of respondent characteristics, the higher the degree of involvement of the respondent with

the pricing decision, the more likely it is for the firm to practice perceived value pricing, since this method requires a more flexible approach to pricing.

In this study, authors use this measure of customer involvement, concretely, the financial involvement of customers with pricing decisions.

Hypothesis 1: *Customers with a higher financial involvement with products are less price sensitive.*

IV. Brand loyalty

Jacoby (1975) defines loyalty as a higher probability of a consumer purchasing products from a particular brand, resulting in consistent purchase behavior over time (see also Dick and Basu 1994; Rauyruen and Miller, 2007). This scenario affects both sales volumes of companies as well as profits (Bennett and Rundle-Theile, 2005). Customer retention is more positive to profits than market share or even scale economies (Reichheld and Sasser, 1990). On the contrary, nonloyal consumers tend to switch brands as a result of either the desire for variety or the chase for promotional incentives (Yoon and Tran, 2011).

Several studies show that loyal customers are less sensitive to price (Brown, 1974; Krishnamurthi and Raj, 1991; Yu and Dean, 2001; Bloemer and Odekerken-Schröder, 2002; Rowley, 2005; Ibrahim and Najjar, 2008; Gázquez-Abad and Sánchez-Pérez, 2009; Ramirez and Goldsmith, 2009; Yoon and Tran, 2011; Li, Green, Farazmand, and Grodzki, 2012; Roy, 2012). Loyal insurance customers are also less sensitive to price (O'Loughlin and Szmigin, 2007; Robson and Sekhon, 2011; Brophy, 2011; Rai and Medha, 2013; Brophy, 2013a). As mentioned by Yoon and Tran (2011), loyal consumers are insensitive to the preferred brand's price.

According to Reichheld and Teal (1996), loyal customers are important in terms of customer relationship activities, value creation programs, and marketing strategies. Also, loyal customers are likely to purchase more frequently, try the firms' other products, and bring new customers to the firm (Li et al., 2012).

In this sense, the authors investigated whether loyal insurance customers really are less sensitive to price. In this research and based on the feedback provided by insurance professionals, customers who remained customers for three years could be considered loyal.

Hypothesis 2: Loyal customers are less price sensitive.

In this context, this study analyzes whether a price-bundling strategy can decrease consumer price sensitivity.

2.2. BUNDLING

There are many other elements that affect consumer price sensitivity and the market share of brands (see Tung, Capella and Tat, 1997). So, will discounts reduce consumer price sensitivity? From the perspective of retailers, revenues are more “closely linked to overall category sales than to the sales of any particular brand” (Raju, 1992). According to Schultz (1990, as cited in Raju, 1992), many of the promotional programs that lead to brand switching are of little use to the retailer. Still, bulky categories or categories with high competitiveness exhibit significantly lower variability in sales (Raju, 1992). This could probably be the case in the insurance industry. However, there are different kinds of price promotions such as:

- The magnitude of the discounts (see Golabi, 1985; Assunção, and Meyer, 1990); and
- The frequency of the discounts (see Assunção and Meyer, 1990).

Adams and Yellen (1976) define bundling as the act of selling goods in packages. Later, Guiltinan (1987) added to the definition of bundling the idea of selling products and services in one package for a “special price.” The basic principle of bundling strategies comes from pioneering works of mental accounting (see Thaler, 1985) as well as

framing effects (Kahneman and Tversky, 1979). According to Sheikhzadeh and Elahi (2013), bundling strategies are mainly used in three situations:

- As a tool for price discrimination;
- As a cost-saving mechanism; and
- As a means of entry deterrence.

Many sectors are using bundling strategies, such as telecoms, machine tools, electronic components, chemical substances, and travel companies bundling flights, rental cars, accommodations, and events (to Johnson, Herrmann and Bauer, 1999). It is a strategy that is increasingly utilized (Dolan and Simon, 1996; Naylor and Frank, 2001). Stremersch and Tellis (2002) presented two different bundling strategies:

- a) Product bundling – based on the principle of products that are complementary. For example, Microsoft sells the Microsoft Office software as a bundle, including Word, Excel, and PowerPoint (Gerdeman, 2013). In the economic literature the terms frequently used are “tying strategy” or “tying arrangements” (see Ferrell and Hartline, 2005, p. 286).
- b) Price bundling – selling at least two products separately without integration (see also Rao and Kartono, 2009, p. 15). As mentioned by Brito and Vasconcelos (2015), bundled discounts provide purchasers with the opportunity to pay less for a bundle than the sum of the prices of the bundled products when purchased separately. Consumers are therefore faced with the choice between meeting all their requirements by buying a package at a discounted price, or purchasing items individually *à la carte*.

In this context, Gultinan (1987) presents two different types of price bundling:

- i. Mixed-joint bundling – there is a reduction when at least two products are purchased simultaneously but customers do not know to which one the reduction has been applied (see also Avlonitis and Indounas, 2006; Gilbride, Gultinan and Urbany, 2008).
- ii. Mixed-leader bundling – there is a reduction on a leader product's price if one customer buys another product (see also Gilbride, Gultinan and Urbany, 2008).

As pointed out by Johnson, Herrmann and Bauer (1999), bundled discounts increase consumer willingness to recommend and repurchase intention, i.e., loyalty behaviors. According to Harris and Blair (2012), from the retailer perspective, if consumers fail to process information about a bundle discount, optimal bundle pricing may be affected. So, why in our study did we choose car insurance as a more relevant product over home insurance? According to Yadav (1994), consumers evaluate bundled products based on an anchoring and adjustment model. In practice, customers anchor their evaluations by analyzing which product is the most important, and then they adjust their preference considering the less important product(s). In the specific case of the Portuguese insurance sector, car insurance is the product most relevant to customers (APS, p.4, 2013) and it is compulsory. In this context, insurers make a great effort regarding the sale of home insurance. Similarly, Weston (2007, as cited in Brophy, 2014b) used motor and health insurance as the anchor products, and home insurance had a significant discount.

Therefore, the authors argue that bundling strategies could play an important role as an integrated strategy (see O'Loughlin and Szmigin, 2005), as well as increasing sales, especially to loyal customers. As Berry (2000, as cited in O'Loughlin and Szmigin, 2005) indicated, service companies should consciously pursue distinctiveness in performing and communicating service, connect emotionally with customers and

internalize the brand for service providers in order to build retention and loyalty with customers. Berry also states that although the study of financial services has been more studied in the last few decades, it continues to pose challenges for marketers as an academic area of research.

In this context, the authors argue that bundling strategies allow insurers and intermediaries to increase customer retention (loyalty) by increasing their satisfaction.

Morwitz, Greenleaf, and Johnson (1998) analyzed the effect of prices on price perceptions and repurchase intentions.¹ For other examples in this field see Brough and Chernev (2012). It is also interesting to note that consumers present different reactions between partitioned and nonpartitioned or combined prices (Guitinan, 1987; Chakravarti, Rajan, Pallab, and Srivastava, 2002; Janiszewski and Cunha, 2004; Xia and Monroe, 2004; Bertini and Wathieu, 2008).

This paper then also studies the following additional hypotheses:

Hypothesis 3: Loyal customers are more sensitive to price bundling strategies than nonloyal customers.

Hypothesis 4: Partitioned prices have better acceptance than combined prices.

¹ Morwitz, Greenleaf, and Johnson (1998) presented products to consumers as follows: i) combined price – telephone for \$82.90, including shipping and handling; ii) partitioned price – telephone for \$69.95 plus \$12.95 surcharge for shipping and handling. The results showed that when using partitioned price, repurchase intentions were higher and price perceptions were lower.

3. METHODOLOGY AND DATA

3.1. SAMPLE

According to the Portuguese Association of Insurance (APS, 2013), in 2013, there were 79 insurance companies operating in Portugal, 11,180 employees, and 24,624 insurance intermediaries. The top 10 most representative brands operating in Portugal are Fidelidade-Mundial, Ocidental Vida, BES Vida, Santander Totta Seguros, BPI Vida, Império Bonança, Allianz Portugal, Açoreana, AXA Portugal, and Tranquilidade.

Data were collected from 455 insurance customers (60.2% men; 39.8% women²), ages between 19 and 80 years (mean=43.79; standard deviation=12.159). A simple random sample was performed and the sample error was $\pm 4.59\%$ ($p=q=50$), with a confidence level of 95% ($k=2$ sigma). Analyzing the sample by age group:

- 11.6% of the sample was between 18 and 29 years old;
- 43.7% was between 30 and 44 years old;
- 37.7% was between 45 and 64 years old;
- 5.1% was between 65 and 74 years old;
- 1.9% was 75³ years old or more.

3.2. DATA COLLECTION

The procedure for collecting data for this study encompassed two important stages as follows:

- Stage 1: The information was collected through personal interviews, using an *ad hoc* questionnaire developed specifically for this research. Interviews took approximately 20 minutes each to be completed and they were conducted during July 2013. These data were used to test hypotheses 1, 2 and 3.

² According to the European Commission (2004, 2011), there should be no gender discrimination in insurance pricing.

³ In Portugal, there is no age limit to buy car insurance. The unique condition is to have a driving license.

- Stage 2: In order to test hypothesis 4, we returned to 42 of the 455 respondents of Stage 1, asking them if they would buy a bundled product (price bundling).

From those:

- i. We presented a bundling strategy with partitioned price to 22 individuals.
- ii. And a combined price to 20 other individuals.

In both stages, the authors received the support of several multibrand insurance intermediaries as far as data collection was concerned. In addition, and in order to prevent any bias in data, we trained all the managers responsible for collecting data, especially concerning Conjoint Analysis. This way, (multibrand) intermediaries knew how to correctly collect data through a simulated sale with Conjoint Analysis.

3.3. ATTRIBUTES' SELECTION

In order to select the most relevant attributes for Portuguese insurance customers, we performed a pilot study based on a qualitative approach (we conducted three focus groups with both customers and intermediaries). The results obtained show that “the intermediaries’ recommendation,” “price,⁴” and “insurer/brand” were the most relevant attributes for Portuguese customers.

3.4. PROCEDURE

A Conjoint Analysis with Full Profile (FP) was performed in order to achieve the conditions most similar to a selling environment (other investigations used the same logic, e.g., Gareth, Levin, Chakraborty, and Levin, 1990). According to Green and Srinivasan (1978), Conjoint Analysis is defined as “a decompositional method that estimates the structure of a consumer’s preferences given his/her overall evaluations of a set of alternatives that are previously specified in terms of levels of different attributes”. Conjoint analysis is a very interesting technique for evaluating and

⁴ Respondents were informed about covers associated with each level of the attribute premium.

analyzing consumer preferences regarding products or services (Varela, Picón and Braña, 2004; Dominique-Ferreira, Rial and Varela, 2012).

Authors considered the possibility of using a choice-based conjoint. However, intermediaries who participated in data collection indicated that the FP option would mimic in a better way the decision-making process of customers. Also, other studies support good performance from FP predicting consumer preferences (Molin, Oppewal, and Timmermans 2000; Oppewal and Klabbers, 2003). In the specific case of pricing studies, Conjoint Analysis is one of the most popular methods in marketing for measuring willingness to purchase (Jedidi and Jaspal, 2009, p. 42).

Therefore, the subjects were asked to sort the cards based on their preferences. This procedure is called Full Profile, with simulated stimuli and sort cards – sequence. The selected attributes were:

Attribute	Levels
Recommended by intermediaries	<ul style="list-style-type: none"> • Yes • Opinion omitted
Price (Premium) ^{5 6}	<ul style="list-style-type: none"> • 150€ - Standard product through regulation (after the decree-law no. 72/2008, April 16th) • 200€ - the same coverage as the option of 150€ and vehicle occupants insurance • 250€ - the same coverage as the option of 200€ and auto glass insurance • 300€ - the same coverage as the option of 250€ and theft coverage
Brand (insurer)	<ul style="list-style-type: none"> • Brand A (Fidelidade-Mundial) • Brand B (Açoreana) • Brand C (Allianz) • Brand D (Tranquilidade)
Price bundling	<ul style="list-style-type: none"> • Yes
Home insurance with a promotional discount (for just 30€)	<ul style="list-style-type: none"> • No

TABLE 3: ATTRIBUTES AND CORRESPONDING LEVELS

To achieve the Conjoint Analysis, we selected these four attributes with different levels for each ($2 \times 4 \times 4 \times 2$). From the 64 possible combinations, we used an orthogonal fractional factorial design, selecting 16 and two holdout cards, which were eventually used in the data collection (with an *Orthoplan* procedure of the SPSS software). We built 18 cards, each one representing one of the 18 combinations of attribute levels.

Because we performed a *post hoc* segmentation (see Green, 1977; Wind 1978; Picón, Varela, and Real, 2005), the Clustering Algorithm was applied to the output of the Conjoint Analysis. Therefore, we carried out a two-stage clustering, starting with a hierarchical method (Euclidean distance) and Ward's (1963) linkage method (the most

⁵ Premium includes salesperson compensation (national standard) and standard claims handling costs

⁶ No deductible (except for the theft coverage)

popular method in the social sciences; see Picón, Varela, and Real, 2005, p. 430). Then we used the iterative k-means clustering, which is considered more reliable than the conventional single-stage procedures (see Picón, Varela, and Real, 2005).

3.5. METHODS AND RESULTS

The study of consumer preferences was performed through Conjoint Analysis. These results are presented in Section 4.1. Market segmentation was performed through Cluster Analysis and analysis of variance (ANOVA), presented in Section 4.2.

Testing of Hypotheses 1, 2, and 3 was performed using the Mann-Whitney U test, whereas testing of Hypothesis 4 was performed using Fisher's Exact Test (due to sample size). Consequently, consumer price sensitivity is the dependent variable.

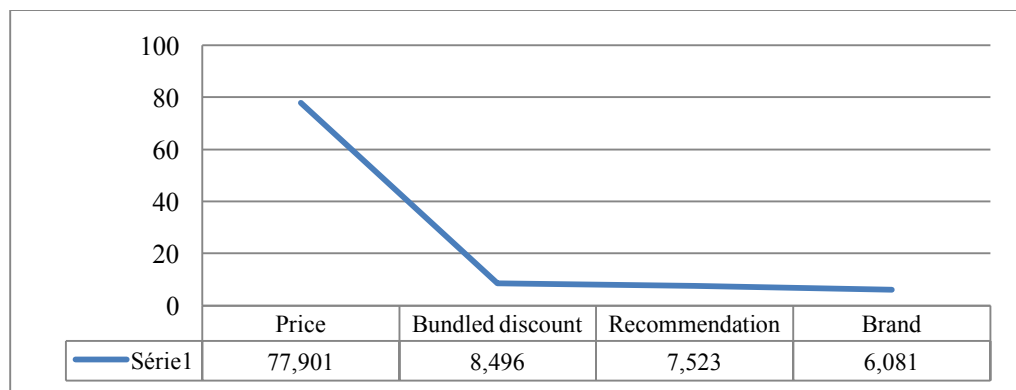
In Section 4.3.2., the authors used the Variation Attributed to the Change (based on the ideal product and the anti-ideal product obtained from Conjoint Analysis results) in order to estimate the gain or loss when changing levels of attributes. This methodology (see Rial, Dominique-Ferreira and Varela, 2011; Dominique-Ferreira, Rial and Varela, 2012) consists in: i) first, "calculating the overall utility for all profiles from the most preferred option to the least preferred one; ii) next, "from the global utilities, it is necessary to estimate the gain or loss when changing a particular stimulus as a proportion of the Maximum Loss of Utility (MLU), that is, the difference between the overall utility of the ideal stimulus (the most preferred) and the anti-ideal (least preferred) one".

Finally, the traditional formula to estimate price elasticity of demand was used in Section 4.4.

4. RESULTS

4.1. RESULTS OF CONJOINT ANALYSIS

The model fit was very high, so we can conclude that validity of the results is high (Pearson's $R=0.999$; Kendall's $\tau=0.983$). The most important attribute was the price, with an importance of 77.901%. The second most relevant attribute was the bundled discount with an importance of 8.496%. Recommendation had an importance of 7.523%, and brand seemed to be the least important attribute of the four (6.081%).



GRAPH 1: IMPORTANCE OF ATTRIBUTES

Concerning the levels of the price attribute, the preferred one was, as expected, 150€ ($u=4.448$). However, we would like to note that paying 50€ more, i.e., 200€ ($u=1.560$) presents a positive part-worth. The levels 250€ and 300€ present negative part-worths ($u=-1.377$ and -4.631 , respectively).

Bundled discounts are important for customers ($u=0.495$). Regarding the recommendation attribute, customers actually gave preference to products recommended by intermediaries ($u=0.438$).

Concerning the brand attribute, Açoreana seemed to be the preferred brand ($u=0.340$). Fidelidade-Mundial is the only other brand that presented a positive utility ($u=0.143$). Allianz and Tranquilidade had negative part-worths (-0.113 and -0.369 , respectively).

4.2. CUSTOMER BUYING DECISION PROCESS

The results of a two-stage cluster analysis show the existence of four clusters regarding the customer buying decision process. The following tables (Table 4, Table 5) show the initial and final centers of clusters. It seems that there are no important variations between both solutions.

	Cluster			
	1	2	3	4
Brand	14,80	11,70	58,36	14,83
Price	32,64	74,93	28,15	32,69
Intermediary's recommendation	43,01	5,81	8,05	8,53
Price bundling	9,54	7,55	5,45	43,95

TABLE 4: FINAL CLUSTER CENTERS

Iteration	Change in Cluster Centers			
	1	2	3	4
1	4,584	,898	2,639	5,161
2	3,907	,476	,755	1,054
3	,892	0,000	1,523	1,088
4	0,000	0,000	0,000	0,000

TABLE 5: ITERATION HISTORY⁷

Nevertheless, clusters are clearly differentiated (see Table 6). Clusters 2 and 3 are the most different, mainly because of the importance given to price. Clusters 1 and 4 are the least different, mainly because they vary almost exclusively in bundling strategy.

⁷ Convergence achieved due to no or small change in cluster centres. The maximum absolute coordinate change for any centre is .000. The current iteration is 4. The minimum distance between initial centres is 59.351.

Cluster	1	2	3	4
1		56,443	56,186	48,716
2	56,443		66,143	55,920
3	56,186	66,143		58,292
4	48,716	55,920	58,292	

TABLE 6: DISTANCES BETWEEN FINAL CLUSTER CENTERS

Finally, in the following table (Table 7) it is possible to see the results of the ANOVA. Price is the attribute that most distinguishes clusters [$F_{\text{Price}}=470.722$, significance (Sig)=0.000].

	Cluster		Error			
	Mean Square	df	Mean Square	df	F	Sig.
Brand	24186,641	3	70,955	353	340,871	,000
Price	45825,056	3	97,350	353	470,722	,000
Intermediary's recommendation	12443,860	3	50,484	353	246,491	,000
Price bundling	11904,601	3	46,947	353	253,573	,000

TABLE 7: ANOVA

- Cluster 1 – 8.4% of the sample (“Guided by intermediaries and price”) - These customers gave great importance to the recommendation of intermediaries (43.01%) and price (32.74%).
- Cluster 2 – 72.8% of the sample (“Shop around customers”) - Customers who gave almost all the importance to price (74.93%).
- Cluster 3 – 10.6% of the sample (“Loyal to insurance companies”) - These customers paid attention to the insurance company/brand (58.36%) and price (28.15%). They seem to be loyal customers.

- Cluster 4 – 8.2% of the sample (“Value for the money”) - Finally, customers in Cluster 4 gave importance to bundling strategies (43.95%) and price (32.69%).

These results are interesting because they allow us to better understand how customers perceive insurers. Results show that 89.4% of customers support their buying decisions on price, intermediary recommendations, and other advantages. This is very important to insurers in terms of business negotiation strategies, e.g., because they highlight that intermediaries play a key role in selling.

4.3. ANALYSIS OF THE HYPOTHESES

4.3.1. PURCHASE INVOLVEMENT

Hypothesis 1: Customers with greater financial involvement with products are less price sensitive.

In order to make the analysis clearer, we decided to divide the sample into two groups:

- Group 1: Customers who pay more than the average price (higher involvement).
- Group 2: Customers who pay less than the average price (lower involvement).

Consumers who have a higher involvement give more importance to brand, less importance to price, and a little more importance to intermediary recommendation, and they are much more sensitive to price bundling (see Table 8). We can assume that these customers need to base the purchase decision on a larger number of elements in order to mitigate its associated risk.

	Group 1	Group 2
Brand	9,179	4,830
Price	69,698	82,110
Intermediary's recommendation	8,718	7,072
Price bundling	12,406	5,989

TABLE 8: PART-WORTHS BASED ON FINANCIAL INVOLVEMENT

Our data are not normally distributed (Shapiro-Wilk statistic=0.981; $p=0.009$ and 0.848 ; $p<0.001$, for low involvement and high involvement, respectively).

	Kolmogorov-Smirnov (Lilliefors Significance Correction)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Low involvement	,092	199	,000	,981	199	,009
High involvement	,134	103	,000	,848	103	,000

TABLE 9: TESTS OF NORMALITY

Therefore, we performed the Mann-Whitney U Test (significance=0.006), indicating that the null hypothesis must be rejected. If we consider the price bundling attribute, the differences between customers with higher involvement and customers with lower involvement (significance=0.044) are statistically significant.

Therefore, hypothesis 1 (customers with greater financial involvement with products are less price sensitive) is accepted.

4.3.2. CUSTOMER LOYALTY

Hypothesis 2: Loyal customers are less price sensitive.

Hypothesis 3: Loyal customers are more sensitive to price bundling strategies than nonloyal customers.

Loyal customers give more importance to the brand (insurer) and less importance to price and intermediary recommendation. Also, loyal customers give much more importance to price bundling (Table 10).

	Loyal	Non loyal
Brand	7,833	5,645
Price	75,829	80,836
Intermediary's recommendation	6,704	11,289
Price bundling	9,634	2,230

TABLE 10: PART-WORTHS OF LOYAL VS. NONLOYAL CUSTOMERS

		Loyal	Non-loyal
Brand	Açoreana	,468	,048
	Tranquilidade	-,458	,105
	Allianz	-,180	-,403
	Fidelidade-Mundial	,171	,250
Price	150	4,375	4,613
	200	1,550	1,661
	250	-1,341	-1,532
	300	-4,584	-4,742
Intermediary's recommendation	Recommended	,396	,653
	Recommendation hidden	-,396	-,653
Price bundling	With bundled discount	,569	,129
	Without bundled discount	-,569	-,129
	Constant	8,500	8,500
	Ideal product	14,308	14,145
	Anti-ideal product	2,493	2,573

TABLE 11: PART-WORTHS' COMPARISON BETWEEN LOYAL AND NON-LOYAL CUSTOMERS

Kolmogorov-Smirnov				Shapiro-Wilk		
(Lilliefors Significance)						
	Statistic	df	Sig.	Statistic	df	Sig.
Non	,264	32	,000	,881	32	,002
Loyal	,222	201	,000	,839	201	,002

TABLE 12: TESTS OF NORMALITY

A Mann-Whitney U Test was performed, and the output indicates that the null hypothesis must be retained (Sig=0.381). However, this result does not mean that there are no relevant differences between Groups 1 and 2 (see Table 11). Therefore, statistically, it is not possible to accept Hypothesis 2 (loyal customers are less price sensitive).

If we consider the price bundling attribute, there are significant differences between loyal and nonloyal customers (Sig=0.007). Loyal customers give much more importance to price bundling than nonloyal customers. Therefore, Hypothesis 3 (loyal customers are more sensitive to price bundling strategies than nonloyal customers) can be accepted.

Based on partial utilities, we estimated a gain or loss when changing a particular product. Therefore, we needed to estimate the global utility of the actual product (U_A) and the global utility of the simulated product (U_B), as well as the proportion of the Maximum Loss of Utility (MLU), that is, the difference between the global utility of the ideal product and the anti-ideal global utility. This index is called the Variation Attributed to Change (VAC), with a mathematical expression given by:

$$VAC = \frac{(U_A - U_B) \times 100}{MLU}$$

Simulations presented in Table 13 (only for loyal customers) show some examples of how it is possible to improve a product's preference through different situations. Specifically:

- Example 1: If Açoreana maintains its price and intermediary recommendation and offers the bundled product, this would represent an increase of 9.63% in consumer preferences.
- Example 2: If Fidelidade-Mundial would like to get customers from Açoreana, this would be possible just by offering the bundled product.
- Example 3: If Açoreana matched Tranquilidade's simulated product and offered the bundled product, it would be possible to increase its product attractiveness by approximately 25%.
- Example 4: Açoreana could almost equal consumer preference for the same product even if it charged 50€ more just by offering the bundled product.

Brand	Price	Intermediary's recommendation	Price bundling	Global Utility	VAC
Açoreana	150€	Yes	No	13,169	Benchmark 1
Açoreana	150€	Yes	Yes	14.308	+9.63%
Example 1					
Fidelidade-Mundial	150€	Yes	Yes	14,011	+7.12%
Example 2					
Tranquilidade	200€	Hidden	No	8,627	Benchmark 2
Açoreana	200€	Yes	Yes	8,591	+24.17%
Example 3					
Açoreana	250€	Yes	Yes	8,591	-0.31%
Example 4					

TABLE 13: CHARACTERISTICS OF THE SIMULATED PRODUCTS

We present examples of simulated products for illustrative purposes only. The most interesting aspect of these analyses is that insurers could make some prediction of how specific customers would react to new products based on different criteria (gender, age, consumption patterns, loyalty behaviors, purchase involvement, etc.).

4.3.3. PRICE BUNDLING AND PRICE PERCEPTION

Hypothesis 4: Partitioned prices have better acceptance than combined prices.

To analyze the best option to present price, we used a sample of 42 customers. Our results show that 61.9% would accept the bundle option. Regarding price perception analysis, our results show that a partitioned price strategy has a little more acceptance than a combined (or nonpartitioned) price: 52.4% and 47.6%, respectively. Because our $n < 50$, we used the Shapiro-Wilk statistic, and the P value was significant (< 0.001 on

both), suggesting that our data are not distributed normally (see Table 14). As shown in Table 15 – using Fisher’s Exact Test – we cannot reject the null hypothesis.

Statistically, Hypothesis 4 cannot be accepted. However, in terms of business strategy, these differences should not be ignored, as is clear from the results in the next section.

		Kolmogorov-Smirnov⁸			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Price bundling	Partitioned price	,383	22	,000	,628	22	,000
	Combined price	,413	20	,000	,608	20	,000

TABLE 14: TESTS OF NORMALITY

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,155 ⁹	1	,694		
Continuity Correction¹⁰	,006	1	,940		
Likelihood Ratio	,155	1	,693		
Fisher's Exact Test				,758	,470
Linear-by-Linear Association	,151	1	,697		
N of Valid Cases	42				

TABLE 15: FISHER’S EXACT TEST

⁸ Lilliefors Significance Correction

⁹ 0 cells (0,0%) have expected count less than 5. The minimum expected count is 7.62.

¹⁰ Computed only for a 2x2 table

4.4. THE EFFECT OF PRICE BUNDLING ON THE DEMAND FUNCTION

In the second stage of the study, we analyzed the potential interest of a bundling strategy in the insurance sector. The 42 customers of the second sample were divided into two groups as follows:

1. Group 1 (n=24): we asked customers from this group how they would react to a bundling strategy presented by their actual insurer.
2. Group 2 (n=18): these customers were asked if they would accept a bundling strategy from another insurer.

The average price paid by these customers was €303¹¹. The bundled strategy supposes an increase of €30 over the base price, i.e., 333€¹². From the 24 customers in Group 1, 18 would finally accept the bundled offer. This represents 75% acceptance. In this case, price elasticity of demand¹³ is 4.205, i.e., customers are sensitive to this price bundling. From the 18 customers of Group 2, eight (8) would accept the bundled offer, i.e., a 44.4% acceptance. In this case, price elasticity of demand is 4.644. In practical terms:

1. Market with the actual logic (without the price bundling): $303\text{€} \times 24^{14} = 7272\text{€}$
2. If customers are offered a price bundling:
 - a. Actual customers: $333\text{€} \times 18^{15} = 5994\text{€}$
 - b. Customers from other firms: $333\text{€} \times 8^{16} = 2664\text{€}$
 - c. And customers with previous conditions (without price bundling):
 $303\text{€} \times 6^{17} = 1818\text{€}$

¹¹ Actual price – P1

¹² Price under the conditions of price bundling – P2

¹³ Traditional formula was used: $\frac{\% CQD}{\% CP} \%$

Where CQD is the percentage of change in quantity demanded and CP is the percentage of change in price

¹⁴ Actual quantity – Q1

¹⁵ Quantity accepting price bundling from one firm – Q2

¹⁶ Quantity accepting price bundling from other firms - Incorporated in Q2

¹⁷ Quantity only accepting product under actual conditions – Q3

Under the new conditions (price bundling), this market has a maximum potential of €10476 ($R_A 5994 + R_B 2664 + R_C 1818$). Comparing the actual market with the new possible one (with price bundling), the loss is €4482 ($10476 - 5994$). Graphical representation offers a more intuitive understanding.

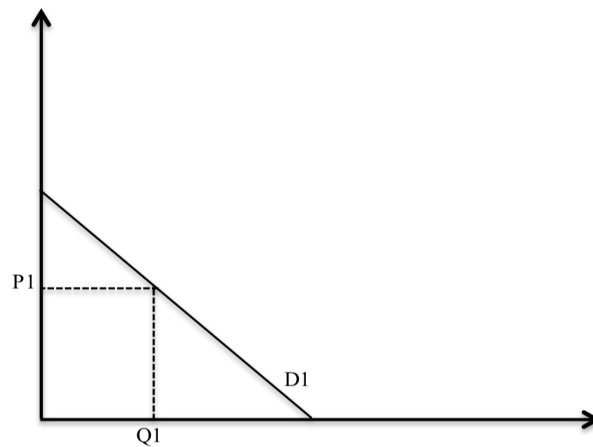


FIGURE 1: DF UNDER ACTUAL CONDITIONS

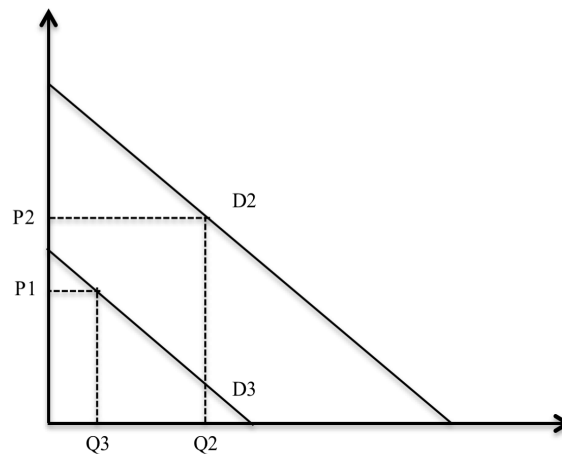


FIGURE 2: DF UNDER PRICE BUNDLING CONDITIONS

5. DISCUSSION AND CONCLUSIONS

Consumer price sensitivity has been a much-discussed subject because it has a direct impact on a firm's profits as well as on consumer satisfaction and loyalty behavior. Price sensitivity is affected by many elements, such as the perceived similarity between brands (Light, 1997; Iyer and Muncy, 2005), involvement with products, brand loyalty, and bundling strategies.

In this study, we only considered car insurance customers. And in this sector, it is not uncommon for Portuguese customers to forget the name of their insurer (brand). Therefore, we can say that there is a perceived similarity between brands, and this could explain why insurer brand is the less important attribute [Importance (IMP) =6.081%]. Further, intermediary recommendation is even more important for customers (Imp=7.523%), making marketing management even more difficult for insurers. In this sense, insurers should improve their support and partnership with intermediaries as mentioned by Hawksby (2015). This would benefit both – insurers and intermediaries – as a win-win solution, improving loyalty programs, e.g., through bundling strategies, which turns out to be the second most important attribute for customers (Imp=8.496%). In this study we considered a price bundling strategy, specifically, a mixed-leader bundling (Guiltinan, 1987; Brito and Vasconcelos, 2015). Results show that 61.9% (approximately two out of three customers) of our sample would accept the bundle proposed, with the main product being auto insurance and home insurance being the product that would receive the reduction.

On price presentation we did not find significant differences whether the price was partitioned or whether it was combined (acceptance percentage of 52.4% and 47.6%, respectively). Our results share some similarities with those obtained in other studies (Drumwright, 1992; Mazumbar and Jun, 1993; Morwitz, Greenleaf, and Johnson, 1998).

In the Portuguese insurance sector, bundling can be considered as a tool for price discrimination and as a cost-saving mechanism (see Sheikhzadeh and Elahi, 2013). Price discrimination because of this kind of bundling allows a reduction in the perceived price. It is a cost-saving mechanism because it may bring new customers and also

because of the indirect impact that this practice has on loyal customers. Regarding bundling as a means of entry deterrence (Nalebuff, 2004 as cited in Sheikhzadeh and Elahi, 2013), we also think that this strategy may be consistent with the reality of the Portuguese insurance sector because in the last couple of months some international players were making an effort to enter the Portuguese insurance sector. The insurance industry is currently a difficult market, i.e., *higher insurance premiums; more stringent underwriting criteria, which means underwriting is more difficult; reduced capacity, which means insurance carriers write less insurance policies; and less competition among insurance carriers* (PSA Insurance and Financial Services, 2013). Therefore, in this context, bundling strategies could play an important role in product and service differentiation instead of traditional price discounts.

As far as price sensitivity is concerned, our results suggest that loyal customers give less importance to price when compared to nonloyal customers (Imp=75.829% and Imp=80.836%, respectively). However, we did not achieve significant statistical differences for this topic. Therefore, brands and intermediaries must be aware that, although loyal customers are “tolerant” to some price oscillation, they still give great importance to price. This may reinforce the idea that firms (insurers and intermediaries) may be more likely to be successful in increasing their revenues through bundling strategies than by simply increasing price. This result, together with the result of cluster analysis (Cluster 3 “loyal to insurers”) and with the fact that the insurance sector has one of the highest turnover rates (Jacada, 2008; Deloitte, 2012; Soeini and Rodpysh, 2012), seems to indicate that more loyalty programs could be developed. In this context, the authors suggest an increase of contractual time for loyal customers. For example, instead of the standard 12-month contract, it could be interesting to develop long-term agreements with loyal customers of 3 years with some benefits, such as more coverage, freezing the price of auto insurance during the 3 years, increase cross-selling offers (e.g., auto insurance, home insurance, and health insurance). It could also be important to treat those customers as a cluster with differentiated services. For example, having an integrated advisory service based on a dedicated online Web service platform, an account manager (as in banking), and a specialized salesperson in order to convert a standard transactional sale to a customer relationship marketing, i.e., CRM (Sheth, 2002; Baron, Warnaby, and Hunter-Jones, 2014). Customer relationship profitability

arises through the acquisition and retention of high-quality customers with low maintenance costs and high revenue (Anderson and Mittal, 2000). Therefore, distribution channels could play an important role knowing what strategies to apply to loyal customers (similar results were obtained by Li *et al.*, 2012). These strategies could also be applied to customers who have a higher financial involvement because they give less importance to price and more importance to intermediary recommendation and they are much more sensitive to price bundling. Nevertheless, we suggest that insurers and intermediaries should preferably present first products with more coverage and services associated (e.g., online Web service platform, account manager) to prevent customers comparing products with low prices (in line with Gázquez-Abad and Sánchez-Pérez, 2009 work). Actually, “insurance companies face technological uncertainty that comes from how big data and analytics investments will drive revenue” (Dyer, Furr, and Lefrandt, 2014), so this online Web service platform could play an important role in customer relationship management. Cross-selling could also be a relevant strategy for these customers as a way of optimizing the wallet share of insurers and intermediaries.

Our sample in the experimental stage (the above-mentioned second stage) is relatively small. In future research it would be important to have a larger sample in order to take more general conclusions, minimizing a firm's risks before any commercial program. Or it would be interesting to make a first selective approach to market based on each customer's buying profile. Intermediaries could play an important role giving qualitative feedback on how customers react to bundling strategies and what could be other anchor products and complementary products.

It would also be interesting to have the collaboration of an actuary in order to carry out more precise analysis of premium estimation of bundling strategies. In particular, it would be important to test different anchor products as well as different bundling combinations. It would also be interesting to study the ideal number of products that would compose the bundling strategy, for example, two anchor products and a price discount in the third product or different percentages of price discounts in the two associated products (e.g., home insurance and health insurance).

Moreover, it could be relevant to consider life insurance products as part of a bundling strategy. It would also be interesting to study whether there is any benefit in applying

the bundle discount to the anchor product instead of applying it to the accessory product. Finally, and depending on the characteristics of consumers in each country, it could be important to perform a stratified random sampling.

CHAPTER II – HOW IMPORTANT IS THE STRATEGIC ORDER OF PRODUCTS' ATTRIBUTES PRESENTATION IN THE INSURANCE MARKET?

ABSTRACT (2)

Objectives: Sales management plays an important role in firms' profit. Its main goal is to determine the best time to present insurance customers with prices, insurers, bundling strategies and the intermediary's recommendation.

Methods: We used a triangular approach. For attribute selection, three focus groups were performed with insurance customers and intermediaries. Conjoint analysis was carried out by presenting the attributes in three different orders.

Results: Primacy and recency effects were detected; a transfer or anchor effect was also found related to the importance of the attributes preceding and succeeding a given attribute.

Managerial implications: Salespeople can improve their approach to customers by decreasing the importance given to price and increasing the positive impact of bundling strategies and the intermediary's recommendation in sales.

Originality: Although the order of attribute presentation has previously been analyzed, this is the first study to examine this issue in non-life insurance products, providing useful information to insurance salespeople and marketing managers for a better understanding of insurance customers' buying decision process.

Keywords: Effects of the order of attribute presentation, Customer services management, Sales management, Bundling strategy, Insurance sector.

1. INTRODUCTION

Different elements affect the success or failure of salespeople's approach to consumers. In the insurance sector, these elements include, for instance, insurers, the intermediary's recommendation, price and discounts. However, the importance that consumers give to each attribute varies in different conditions. For instance, the moment at which each characteristic of the product is presented during the sale may be of particular importance to consumers (see Buda and Zhang, 2000; Gatzert, Huber and Schmeiser, 2010; Hogarth and Einhorn, 1992). For example, consumers often evaluate a brand's current price against its past prices or the prices of previously encountered brands (Monroe, 1990, as cited in Suk, Lee and Lichtenstein, 2012). Atkinson and Shiffrin's work (1968) is one of the groundbreaking studies to explain primacy and recency effects. In this context, salespeople can play an important role in firms: *salespeople often use adaptive influence tactics to engage consumers in a way that drives sales performance* (Homburg, Muller and Klarmann, 2011, as cited in Xie and Kahle, 2014).

The literature (e.g., Chrzan, 1994; DeMoranville and Bienstock, 2003; Li, 2009) shows that customers may be affected not only by the moment and order in which price is presented—i.e., primacy and recency effects—but also by a transfer effect, or a logic chain order effect. Therefore, it may not be enough to say that price should be presented at the beginning, middle or close to the end of the sale. Price may also be affected by the attributes that precede and succeed it; i.e., there may be an anchor effect. Thus, salespeople may reduce consumers' responsiveness to price changes by first presenting other attributes that consumers value highly.

Considering the timeliness of this much-discussed issue (e.g., Huber, Gatzert and Schmeiser, 2015), the authors of this work intend to identify at which point insurance salespeople should present the following in order to decrease the perceived importance of the premium in sales and increase cross-selling through price bundling: (a) the premium (and the associated covers); (b) the insurer; (c) bundling strategies; and (d) the intermediary's recommendation.

2. THEORETICAL BACKGROUND

2.1. EFFECT OF ATTRIBUTES ORDER PRESENTATION

Primacy and recency effects have been well understood for many decades (e.g., Chrzan, 1994). In the specific case of conjoint analysis with full profiles (orthogonal fractional factorial designs), many effects related to order presentation have been identified (see Acito, 1977; DeSarbo and Green, 1984; Johnson, 1987; Chrzan, 1994; Orme, Alpert and Christensen, 1997; DeMoranville and Bienstock, 2003).

Order effects exist if the estimated attribute importance differs depending on the position it occupies in each profile, keeping the research design, attributes and levels unchanged. This issue negatively affects the predictive ability of conjoint analysis (see DeSarbo and Green, 1984; Johnson, 1987; Orme, Alpert and Christensen, 1997). Johnson's (1987) study using full profiles (1987) found that the order effect was responsible for 16% of the error variance for conjoint predictions. Other studies have also found that the order of the attributes' presentation has negative effects on results (Acito, 1977; DeMoranville and Bienstock, 2003).

In addition, previous studies have found that attribute levels and the factors that determine how much weight is assigned to each level influence evaluation and choice (Fishbein and Ajzen, 1975; Nowlis and Simonson, 1997; Dhar, Nowlis and Sherman, 1999; Hsee and Zhang, 2004). According to Sela and Berger (2012), many firms present their products with few attributes (e.g., the Avis website, www.avis.com). It seems that presenting more attributes to consumers tends to benefit evaluation when the options are perceived as being less useful (the opposite also holds true).

Other studies focus on the specific place or selling moment in which price is presented (see DeSarbo and Green, 1984; Johnson, 1987; Orme, Alpert and Christensen, 1997). In terms of simulation predictions, such as those based on conjoint analysis experiments, this situation can produce biased results (Acito, 1977; Johnson, 1987; DeMoranville and Bienstock, 2003). Primacy and recency effects have also been analyzed in the context of a long-term memory test of Super Bowl commercials (see Li, 2009), wherein the results show a strong primacy effect.

This paper aims to study the possible primacy and/or recency effects in the insurance sector.

2.2. PRICE PERCEPTION

A wide range of literature has analyzed the factors that influence price perception. Bagchi and Davis (2012) present three dimensions or literature streams that explain the process of price perception:

- Computation, that is, how consumers think prices. The literature about computation focuses on the following factors:
 - Individual differences variables such as cognitive skills, analytical ability (see Cacioppo and Petty, 1982).
 - Situational factors such as information overload, time constraints and decision context factors (Suri and Monroe, 2003).
- Numerosity and number encoding—i.e., how the size of numbers affects perceptions. In this dimension, the authors study how loyalty programs can increase effectiveness; e.g., points earned per dollar spent (see Bagchi and Li, 2011). With this factor, it is also possible to separate between hedonic and utilitarian attributes; i.e., more emotional attributes versus more rational/useful attributes, respectively. According to Sela and Berger (2012), *an increase in perceived usefulness also may help hedonic options more than utilitarian ones because it enables consumers to balance two competing goals: obtaining utilitarian benefits and hedonic pleasure.*
- Anchoring—i.e., how individuals tend to anchor on the first part of information for initial judgments. For example, does first presenting price and then presenting quantity lead to the same results as first presenting quantity and then presenting price? Bagchi and Davis (2012) analyze the difference between “\$29 for 70 items” and “70 items for \$29” using car insurance is used as the anchor product (see also Yadav, 1994).

Other literature focuses on trade-in acquisitions (see Purohit, 1995; Okada, 2001; Zhu, Chen and Dasgupta, 2008). Two of these studies (Okada, 2001; Zhu, Chen and Dasgupta, 2008) achieve interesting results about trade-in purchases in the automobile

sector: customers are willing to pay more for a new car if the sellers pay more for the used car. However, there are some controversial results concerning the specific research topic of trade-ins. For example, Srivastava and Chakravarti (2011) obtain opposite results. Relevant research has also been conducted concerning the specific effect of how options are presented (see Dhar and Simonson, 1992; Diehl and Zauberman, 2005). The general result is that when prices are presented to customers in descending order, customers tend to choose the more expensive options; when prices are presented in ascending order, customers tend to choose the less expensive options (see Suk, Lee and Lichtenstein, 2012).

This paper aims to explore whether an anchor effect occurs when attributes are presented in different orders.

2.3. THE IMPORTANCE OF INTERMEDIARIES IN INSURANCE SALES

Intermediaries assume great importance in the insurance sector. According to The Council of Insurance Agents & Brokers (2015), *insurance intermediaries facilitate the placement and purchase of insurance, and provide services to insurance companies and consumers that complement the insurance placement process*. According to Eckardt and Rathke-Doppner (2010):

The profound information asymmetries between consumers and insurance companies have resulted in the evolution of institutions that mediate between consumers and insurance companies. Insurance intermediaries such as exclusive agents and insurance brokers hold an important position as matchmakers between the supply and demand sides on insurance markets.

In terms of demand, consumers' preferences in regard to insurance-related information, other transaction services and their transaction costs influence their make-or-buy decisions. Since many information services depend on information that is privately held

by consumers, intermediation service quality also depends on cooperation between consumers and intermediaries (see Eckardt and Rathke-Doppner, 2010). On the supply side, distribution of the relevant information and the search technology used are important factors that affect the search costs incurred in producing information and other services at a certain level of quality (Rose, 1999; Eckardt, 2007, as cited in Eckardt and Rathke-Doppner, 2010). Rose (1999) presents different cost reductions from the services of intermediaries, including search costs, information costs and opportunity costs (for more detail, see Table 16).

Transaction stages	Intermediary service	Cost reduction
Searching and matching	✓ Direct sales of information	✓ Search costs
	✓ Matchmaking	✓ Information costs
	✓ Market-making	✓ Opportunity costs of time
Availability or products and immediacy	✓ Compensation of variances in demand and supply	✓ Opportunity costs of time
Negotiating and contracting	✓ Strong bargaining position	✓ Negotiation costs
	✓ Exploitation of differences in contract terms between supply and demand market side	✓ Information costs ✓ Administrative costs
	✓ To standardize contracts	✓ Opportunity cost of time
Monitoring and guaranteeing	✓ Expertise in determining product and service quality	✓ Information costs
	✓ Cross-sectional and temporal reuse of information	✓ Monitoring and control costs
	✓ Guaranteeing high product quality	✓ Costs resulting from uncertainty
		✓ Investment in expertise

TABLE 16: TRANSACTION COST REDUCTION FROM INTERMEDIARIES
(ROSE, 1999)

2.4. THE IMPORTANCE OF BUNDLING STRATEGIES IN SALES

Adams and Yellen (1976) define bundling as the act of selling goods in packages. In 1987, Guiltinan added to this definition the concept of selling products and services in

one package for a “special price”. Other literature analyzes the specific effect of price bundling presentation, for example, partitioned price and combined price (see Chakravarti, Rajan, Pallab and Srivastava, 2002; Stremersch and Tellis, 2002; Hamilton and Srivastava, 2008; Brito and Vasconcelos, 2015). Consistent with Sheikhzadeh and Elahi (2013), bundling strategies are mainly used in three situations:

- i. A tool for price discrimination;
- ii. A cost saving mechanism;
- iii. A means of entry deterrence.

In this context, there are two different types of bundling strategies: product bundling and price bundling (see Stremersch and Tellis, 2002; Gilbride, Gultinan and Urbany, 2008). According to Johnson, Herrmann and Bauer (1999), bundled discounts increase consumers’ willingness to recommend and repurchase intention, i.e., loyalty behaviors.

According to Harris and Blair (2012), from the retailer perspective, if consumers fail to process information about bundle discount, optimal bundle pricing may be affected (see also Drumwright, 1992). Another important aspect according to Yan, Myers, Wang and Ghose (2014), *the complementarity the price discount to the identical products must be attractive to customers and the degree of product complementarity to the complementary products must be large enough*. So, in this study we chose the car insurance as the main product and the home insurance as the other part of the bundle strategy because of two reasons: a) they are complementary; b) because consumers evaluate bundled products based on an anchoring and adjustment model (see Yadav, 1994), and the car insurance is the most relevant product to the Portuguese customers (see Associação Portuguesa de Seguros, 2013, i.e., Portuguese Association of Insurance) and also because it is compulsory.

In this sense, this research aims also at analyzing the importance that customers give to bundling strategies in the insurance sector.

3. METHODOLOGY

3.1. PARTICIPANTS

Data was gathered from 394 insurance customers (59.1% men; 40.9% women), aged between 19 and 80 (mean=43.92; standard deviation=12.299). The sample error was $\pm 4.94\%$ ($p=q=50$), with a confidence level of 95% ($k=2$ sigma).

3.2. ATTRIBUTES' SELECTION

In order to select the most relevant attributes for Portuguese insurance customers, we performed a pilot study based on a qualitative approach (we conducted three focus groups with both customers and intermediaries). The results obtained show that “the intermediaries’ recommendation,” “premium,¹⁸” and “insurer/brand” were the most relevant attributes for Portuguese customers. These focus groups lasted 47-55 minutes and were performed in 2012.

Literature revision has also proved that premium (Barroso and Picón, 2012; Rai and Medha, 2013), intermediary recommendations (O’Loughlin and Szmigin, 2007; Robson and Sekhon, 2011; Brophy, 2013), and pricing strategies such as price bundling (Weston, 2007, as cited in Brophy, 2014) were very important attributes.

3.3. PROCEDURE

A Conjoint Analysis with Full Profile (FP) was performed in order to achieve the most similar conditions as selling environment (other investigations used the same logic, e.g., Gareth, Levin, Chakraborty and Levin, 1990). Authors considered the possibility of using choice-based conjoint. However, intermediaries who collected data indicated that the full profile option would mimic in a better way the decision-making process of customers. Also, other studies support good performance from FP predicting consumers’ preferences (Molin, Oppewal and Timmermans 2000; Oppewal and Klabbers, 2003). In the specific case of pricing studies, Conjoint Analysis is one of the

¹⁸ Respondents were informed about covers associated with each level of the attribute premium.

most popular methods in marketing for measuring willingness to purchase (Jedidi and Jaspal, 2009, p. 42).

To perform conjoint analysis, we selected the abovementioned four attributes with different levels for each (2x4x4x2). From the 64 possible combinations, we used an orthogonal fractional factorial design, selecting 16 and two holdout cards, which were eventually used in the data collection (with the “Orthoplan” procedure of SPSS v. 21). We built 18 cards, each of which represented one of the 18 combinations of the levels of attributes. For the specific purpose of this study, we used three orders of attribute presentations called “series” and characterized as follows:

SERIES A	SERIES B	SERIES C
Insurer	Bundling	Insurer
Price	Intermediary’s recommendation	Bundling
Intermediary’s recommendation	Insurer	Intermediary’s recommendation
Bundling	Price	Price

TABLE 17: ORDERS OF ATTRIBUTES’ PRESENTATION

Due to the high number of possible combinations, we chose three series. In series A, price was placed at the beginning, mainly for the purpose of verifying the results of Bagchi and Davis (2012) (that individuals tend to anchor on the first part of information for initial judgments). In series B and series C, price was placed at the end for the same reason. The only difference between series B and series C was the order of the presentation of the attributes preceding price; in series B, we sorted the other attributes based on what we believed to be the descending order of importance. In other words, we thought that bundling would be the second most important attribute, followed by the intermediary’s recommendation and finally the insurer. In series C, we placed what we thought would be the least important attribute first, followed by the other attributes.

3.4. METHODS AND RESULTS

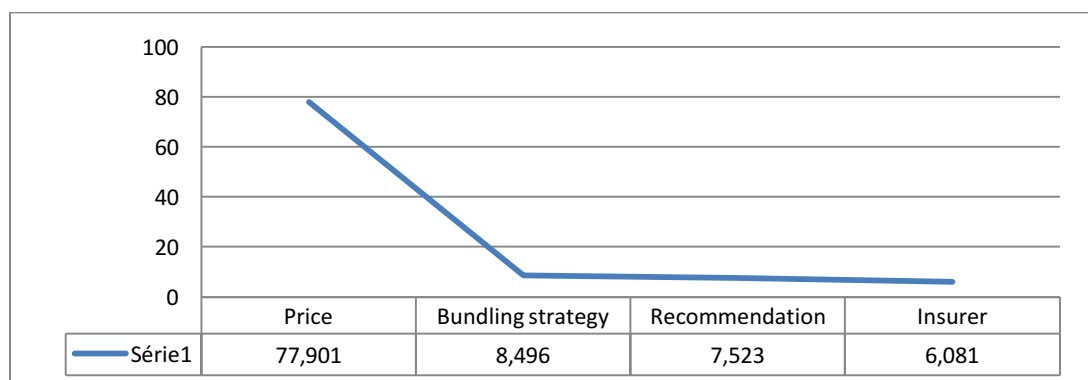
the study of consumer preferences was performed through conjoint analysis. In order to analyze the possible order effect on each attribute (Section 4.2.), we performed the Kruskal–Wallis test.

Finally, as outlined in Section 4.3.3., we used the variation attributed to the change (based on the ideal product and the anti-ideal product obtained from the results of the conjoint analysis) in order to estimate the gain or loss when changing the order of the attributes' presentation.

4. RESULTS

4.1. CONJOINT ANALYSIS' RESULTS

Model fit is very high, so we can conclude that validity of the results is high (Pearson's $R=0.999$; Kendall's $\text{Tau}=0.983$). The most important attribute is the price, with an importance of 77.901%. The second most relevant attribute is the bundled discount with an importance of 8.496%. The recommendation has an importance of 7.523% and the brand seems to be the least important attribute of the four (6.081%).



GRAPH 2: IMPORTANCE OF ATTRIBUTES

Concerning levels of the price attribute, the preferred level is, as expected, €150 ($u=4.448$). However, it should be noted that paying €50 more, i.e., €200 ($u=1.560$), presents a positive part-worth. The levels €250 and €300 present negative part-worths

($u=-1.377$ and -4.631 , respectively). In addition, bundled discounts are a good option for customers ($u=0.495$). Concerning the recommendation attribute, customers actually give preference to products recommended by intermediaries ($u=0.438$). Concerning the brand attribute, Açoreana seems to be the preferred brand ($u=0.34$). Fidelidade-Mundial is the only other brand that presents a positive utility ($u=0.143$).

4.2. RESULTS BY SERIES

4.2.1. PRICE

Results show that price has a lower importance when presented at the end of the sale ($U_{\text{Price B}}=79.359$; $U_{\text{Price C}}=72.996$). Consumers give more importance to price when it is presented at the beginning ($U_{\text{Price A}}=83.97$).

The difference between the highest value ($U_{\text{Price A}}=83.97$) and the lowest one ($U_{\text{Price C}}=72.996$) is 10.974%. This difference of importance (10.974%) is higher than the importance of any of the other attributes. This could be an indication of a primacy effect when price is presented at the beginning (series A).

There is also a transfer effect, i.e., when price is presented at the end and is preceded by a relevant attribute (such as the intermediary's recommendation), its importance is lower (series C). When price is also presented at the end but is preceded by the least important attribute (insurer), the transfer effect is not so strong (series B).

ATTRIBUTES	SERIES A	SERIES B	SERIES C	A-B	A-C	B-A
INSURER	3,542	5,678	8,550	2,136	5,008	2,872
PRICE	83,97	79,359	72,996	4,611	10,974	6,363
INTERMEDIARY'S	6,116	3,841	10,678	2,275	4,562	6,837

RECOMMENDATION						
BUNDLING STRATEGY	6,371	11,122	7,777	4,751	1,406	3,345
AVERAGE	---	---	---	3.433	5.488	4.854

TABLE 18: IMPORTANCE OF EACH ATTRIBUTE BY SERIES

In order to check normality of data, we performed the test of normality. Results show that data are not normally distributed (p-value <0.001). So, Kruskal-Wallis test was performed and the result show that the null hypothesis should be retained (p-value = 0.374).

Tests of Normality						
	Series	Kolmogorov-Smirnov ^a			Shapiro-Wilk	
		Statistic	df	Sig.	Statistic	df Sig.
Price	A	,226	103	,000	,838	103 ,000
	B	,295	45	,000	,663	45 ,000
	C	,186	172	,000	,875	172 ,000
a Lilliefors Significance Correction						

TABLE 19: TESTS OF NORMALITY FOR PRICE

Null Hypothesis	Test	Sig.	Decision
The distribution of price is the same across of categories	Independent Samples Kruskal-Wallis Test	0.374	Retain the null hypothesis
Asymptotic significances are displayed. The significance level is .05			

TABLE 20: KRUSKAL-WALLIS TEST FOR PRICE

4.2.2. INSURER

In the case of the insurer, there is a more complex effect. When the insurer is presented at the beginning (series A and series C), consumers give: i) little (lowest) importance in series A ($U_{\text{Insurer A}}=3.542$); but also the highest importance in series C ($U_{\text{Insurer C}}=8.550\%$).

The difference between the highest and the lowest importance is 5.008%. So, it is not possible to argue that there is a primacy effect or a recency effect ($U_{\text{Insurer B}}=5.678\%$).

Perhaps, the reason is that in series A, the attribute insurer ($U_{\text{Insurer A}}=3.542$) is immediately succeeded by price ($U_{\text{Price A}}=83.97\%$) which is the most important attribute. So, this could be explained by the enormous importance of price in series A together with the primacy effect observed in price. Again, in series B it seems that the same situation occurs.

In series C the situation is different because the attribute that succeeds insurer is a less important attribute (bundling strategy) compared with price. In order to check normality of data, we performed a test of normality. Results show that data are not normally distributed (p-value <0.001).

In this sense, Kruskal-Wallis test was performed and the result shows that it is possible to reject the null hypothesis (p-value = 0.024).

Tests of Normality							
	Series	Kolmogorov-Smirnov ^a		Shapiro-Wilk			
		Statistic	df	Sig.	Statistic	df	Sig.
Insurer	A	,238	103	,000	,720	103	,000
	B	,328	45	,000	,561	45	,000
	C	,232	172	,000	,674	172	,000
a. Lilliefors Significance Correction							

TABLE 21: TESTS OF NORMALITY FOR INSURER

Null Hypothesis	Test	Sig.	Decision
The distribution of insurer is the same across of categories	Independent Samples Kruskal-Wallis Test	0.024	Reject the null hypothesis
Asymptotic significances are displayed. The significance level is .05			

TABLE 22: KRUSKAL-WALLIS TEST FOR INSURER

4.2.3. BUNDLING STRATEGY

Regarding the attribute bundling strategy, it seems that there is a primacy effect, because when this attribute is presented at the beginning, it gets its highest importance ($U_{\text{Bundling B}}=11.122\%$). When presented in second place, it gets the second highest importance ($U_{\text{Bundling C}}=7.777\%$). Finally, when presented at the end, the importance of bundling strategy is the lowest one ($U_{\text{Bundling A}}=6.371\%$). The difference between the highest and the lowest value is 4.751.

It seems that there is a primacy effect in series B (presented in first place) and C (presented in second place).

In order to check normality of data, we performed the Shapiro-Wilk statistic. Results show that data are not normally distributed ($p\text{-value} < 0.001$). So, Kruskal-Wallis test was performed and the result show that the null hypothesis should be retained ($p\text{-value} = 0.794$).

Tests of Normality						
Series		Kolmogorov-Smirnov ^a	Shapiro-Wilk			
		Statistic	df	Sig.	Statistic	df Sig.
Bundled strategy	A	,195	103	,000	,755	103 ,000
	B	,179	45	,001	,721	45 ,000
	C	,208	172	,000	,735	172 ,000

a Lilliefors Significance Correction

TABLE 23: TESTS OF NORMALITY FOR BUNDLED STRATEGY

Null Hypothesis	Test	Sig.	Decision
The distribution of bundling strategy is the same across of categories	Independent Samples Kruskal-Wallis Test	0.794	Retain the null hypothesis

Asymptotic significances are displayed. The significance level is .05

TABLE 24: KRUSKAL-WALLIS TEST FOR BUNDLING STRATEGY

4.2.4. INTERMEDIARY'S RECOMMENDATION

Regarding the recommendation made by the intermediary, the highest value is observed when the attribute is presented near the end ($U_{\text{Recommendation C}}=10.678\%$; $U_{\text{Recommendation A}}=6.116\%$). When presented near the beginning, it has the lowest importance ($U_{\text{Recommendation B}}=3.841\%$). The difference between the highest and the lowest values is 6.837%. In this case, it seems there is not a clear effect (possibly a recency effect).

In order to check normality of data, we performed the Shapiro-Wilk statistic. Results show that data are not normally distributed ($p\text{-value} < 0.001$). So, Kruskal-Wallis test was performed and the result show that the null hypothesis should be retained ($p\text{-value} = 0.747$).

Finally, it is interesting to note that the variability of attributes' importance is lower when price is presented at the beginning (series A), exactly in the circumstances in which the importance of price is the highest one. Our argument is also supported because the highest variability of attributes' importance is found in series C (precisely our recommendation in terms of salespeople approach to customers).

Tests of Normality							
	Series	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Intermediary's recommendation	A	,210	103	,000	,759	103	,000
	B	,204	45	,000	,717	45	,000
	C	,239	172	,000	,680	172	,000
a Lilliefors Significance Correction							

TABLE 25: TESTS OF NORMALITY FOR INTERMEDIARY'S RECOMMENDATIONS

Null Hypothesis	Test	Sig.	Decision
The distribution of intermediary's recommendation is the same across of categories	Independent Samples Kruskal-Wallis Test	0.747	Retain the null hypothesis
Asymptotic significances are displayed. The significance level is .05			

TABLE 26: KRUSKAL-WALLIS TEST FOR INTERMEDIARY'S RECOMMENDATIONS

4.3. STATISTICAL DIFFERENCES *VERSUS* SIMULATION ANALYSIS

According to Bakan (1966, as cited in Cohen, 1994), “a great deal of mischief has been associated” with the test of significance. In most cases, the practical reality is sidelined because “if he tried to publish this result without a significance test, one or more reviewers might complain? It could happen.” This logic seems to place the statistical implications in contradiction with the practical implications. However, in terms of the results obtained in this study, it is questionable as to whether the non-statistically significant differences are relevant in real sales situations. Table 27 shows some simulation analyses through VAC. For example, “benchmark 1” shows that it is possible to increase the attractiveness of the same product by 4.74% based on the effect of the order of attribute presentation (from series A to series C).

Series	Brand	Price	Intermediary's Recommendation	Bundling Strategy	Global Utility	VAC
A	Açoreana	200\$	Yes	Yes	10.990	Benchmark 1
C	Açoreana	200\$	Yes	Yes	11.540	+ 4.74% (Comparing with Benchmark 1)

TABLE 27: SIMULATIONS

5. DISCUSSION AND MANAGERIAL IMPLICATIONS

Price is frequently the most important attribute for customers. However, it is clearly not the only attribute that customers consider in the buying process. In order to conduct this study, three focus groups were carried out; they showed that three other attributes are also relevant in insurance customers' buying process: insurer, bundling strategy and intermediary's recommendation.

The general results show that price is the most important attribute, as expected, followed by bundling strategy, the intermediary's recommendation and the insurer's identity. However, when customers are exposed to a different order of the presentation of the attributes, the results are quite different. For example, the intermediary's recommendation can be the second most important attribute (Imp=10.678% in series C), as well as the least important attribute (Imp=3.841% in series B). In this sense, each attribute's importance shows great variability depending on the specific moment/place in which the salesperson presents each attribute. This is mainly due to primacy and recency effects, but it is also influenced by a transfer effect; i.e., the relative importance of the attributes preceding and succeeding a given attribute affect its importance. This result is even more important if we consider that intermediaries play an important role in the consumer buying decision process. Therefore, our results share some similarities with those obtained in other studies (Chrzan, 1994; DeMoranville and Bienstock, 2003).

Concerning implementation of bundling strategies in the Portuguese insurance sector, it seems that sales managers should pay special attention to the detection of the primacy effect, which could be used as an anchor element in sales (Yadav, 1994).

The next issue that arises is that of how salespeople can most efficiently approach customers. In order to decrease the importance of price, our results suggest that salespeople should first present the insurer's identity, followed by the bundling strategy, the intermediary's recommendation and, finally, the price. This approach seems to be able to decrease the importance of price by 10.975% compared to the least effective order of presentation. These results show some similarities with those of a study conducted by Bagchi and Davis (2012).

One limitation of this study is related with the use of only three different series. It would be interesting to use different combinations and analyze the results thereof.

CHAPTER III – THE KEY ROLE PLAYED BY
INTERMEDIARIES IN THE INSURANCE MARKET
SUPPLY CHAIN: EVIDENCE FROM PORTUGUESE
INSURANCE CUSTOMERS

ABSTRACT (3)

Purpose: The insurance market has high churn rates because customers' purchase decision-making process and claims management rely heavily on intermediaries. The purpose of this study is to investigate the role played by insurers and intermediaries in customer satisfaction, as well as in the preferences of customers regarding the purchase decision-making process (two important elements of the insurance supply chain).

Methodology: The first step was to select the most important attributes for Portuguese insurance customers. Three focus groups were conducted (using B2C and B2B markets), and data from Portuguese car insurance customers were gathered through an ad hoc questionnaire. The customers' purchase decision-making process was studied through the multidimensional scaling unfolding model.

Findings: Intermediaries play a key role in the insurance market by influencing customer satisfaction, claims management and the purchasing process (premium acceptance).

Practical implications: Because of the influence that intermediaries have on customer satisfaction, insurers should improve their partnerships (back office support) with intermediaries.

Originality: This study analyzes insurance supply chain management, including three different players: i) customers; ii) intermediaries; iii) and insurers. Consumer preferences, in terms of purchasing behavior and satisfaction, rely more on intermediaries than insurers. The study's findings concerning consumer preferences can be used by insurers and intermediaries to improve the efficiency of the insurance market supply chain, specifically in terms of claims management. Also, an original and brief questionnaire to measure insurance customers' satisfaction is tested with acceptable psychometrics properties.

Keywords: Banking industry, Insurance supply chain management, Insurance intermediaries, Insurance customers' satisfaction, Insurance customers' preferences.

1. INTRODUCTION

The insurance industry is more competitive than ever because customers have become increasingly demanding (Siddiqui and Sharma, 2010). Customers are becoming increasingly aware of their expectations and demand higher standards of services, as technology enables them to compare products and services very quickly and accurately (Siddiqui and Sharma, 2010). Many studies show the importance of supply chain management (SCM) in this context (see Ismail and Sharifi, 2006; Koh, Saad and Arunachalam, 2006; Stock and Boyer, 2009; Miguel, Brito, Fernandes, Tescari and Martins, 2014; Hung Goh and Eldridge, 2015; Ke, Windle, Han and Brito, 2015). According to Lambert, García-Dastugue and Croxton (2005, as cited in Corominas, 2013), SCM has been used as a synonym for:

- i. Logistics;
- ii. Operations management;
- iii. Purchasing;
- iv. A combination of the three.

Naslund and Williamson (2010) argue that the concept of SCM is “complex, poorly defined and difficult to measure”. In this context, Fisher (1997) recommends an alignment between the supply chain strategy and the characteristics of products. SCM is a very difficult and challenging process, as Rugman, Li and Oh state (2009):

[...] Building a global supply chain can be very costly and challenging [...] Besides, environmental factors that are exogenous to firms in supply chain management, another challenge is endogenous to firms – that is, managing the relationships among supply chain partners so as to achieve a high level of integration and cooperation.

So, considering that:

Therefore, the following should be considered:

- a) Outsourcing carries a greater quality risk than internal production; i.e., a vertically integrated chain (Gray, Roth and Tomlin, 2007);
- b) The supply chain of the insurance sector relies greatly on outsourcing, such as intermediaries (Doney and Cannon, 1997; Jap, 2000; Beloucif, Donaldson and Kazanci, 2004; Chang, 2006; O'Loughlin and Szmigin, 2005; Rugman, Li and Oh, 2009; Robson and Sekhon, 2011; Brophy, 2013);
- c) Portuguese insurance customers buy products mostly from intermediaries (in line with the “purchasing” concept presented by Lambert, García-Dastugue and Croxton, 2005, as cited in Corominas, 2013), so they are the the main distribution channel in the Portuguese insurance industry (Associação Portuguesa de Seguros – Portuguese Association of Insurance, 2014),

The objectives of this investigation are twofold:

- To understand the role and impact of intermediaries and insurers in the insurance supply chain through customer satisfaction (in line with Rai, Patnayakuni and Seth, 2006, as cited in Jean, Sinkovics and Kim, 2008);
- To analyze the structure of customer preferences and connect them to the insurance supply chain (in line with Jean, Sinkovics and Kim, 2008).

The authors chose this experimental research approach because of the complexity of the insurance supply chain, and analyze this process from the perspective of the customer. This choice follows the reasoning of Andriopoulos and Slater (2013):

Contemporary global supply and value chains involve international networks that are built upon personal inter- and intra-organizational relationships. Understanding these relationships and their link to performance, requires an exploratory approach which gets as close as possible to the actors involved.

2. THEORETICAL FRAMEWORK

2.1. SUPPLY CHAIN MANAGEMENT

According to Lambert, García-Dastugue and Croxton (2005), in 1996 The Global Supply Chain Forum developed the following definition of supply chain management: *the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders* (see also Lambert, Cooper and Pagh, 1998, p. 1). Lambert, García-Dastugue and Croxton 2005' work presents eight supply management processes that were included in The Global Supply Chain Forum framework, as follows:

- Customer Relationship Management – the structure that shows how relationships with customers are developed and maintained;
- Customer Service Management – it is considered the firm's face to customers, *a single source of information*;
- Demand Management – *the structure for balancing the customers' requirements with supply chain capabilities, including reducing demand variability and increasing supply chain flexibility*;
- Order Fulfilment – *includes all activities necessary to define customer requirements, design a network, and enable the firm to meet customer requests while minimizing the total delivered cost*;
- Manufacturing Flow Management – comprises the activities to obtain, implement and manage manufacturing flexibility and move products through the plants in the supply chain;

- Supplier Relationship Management – specifies how should be developed and maintained the relationships with suppliers;
- Product Development – delivers the structure for developing and bringing to market new products jointly with customers and suppliers;
- Returns Management – “includes all activities related to returns, reverse logistics, gatekeeping, and avoidance”.

In order to fulfill the goals of this investigation, the authors considered the following three supply management processes: a) Customer Relationship Management (CRM) provided by insurers and intermediaries – sales are generally performed by intermediaries, while claims management are performed by intermediaries (downstream) and by insurers (upstream); b) Customer Service Management – mainly provided by intermediaries (Robson and Sekhon, 2011; Brophy, 2013; Portuguese Association of Insurance, 2014); c) Demand Management – essentially provided by intermediaries.

2.2. CUSTOMERS' SATISFACTION

According to Parasuraman, Zeithaml and Berry (1993), there are some basic principles that provide customer satisfaction, and this relationship can be translated in the following way:

- The Satisfaction (S) of the client, results from the difference of the set of perceptions (P) and expectations (E), i.e.: $S = P - E$

When there is a complaint from a consumer, the more quickly the problem is solved, the more satisfied the consumer will be (Orsingher, Valentini and de Angelis, 2010). This situation is frequently called “the paradox of satisfaction”.

Satisfaction and loyalty are usually linked because there is a positive relationship between both concepts and realities (Kim and Yoon, 2004; Bodet, 2008; Kahn, 2012). Many studies have analyzed the link between customer satisfaction and loyalty behaviors (Bernhardt, Donthu and Kennett, 2000; Edvardsson, Johnson, Gustafson and Strandvik, 2000).

According to Orsingher, Valentini and de Angelis (2010), the more satisfied a customer is, the more likely they are to become loyal to a specific brand (see also Martensen, Gronholdt and Kristensen, 2000). Many studies show that satisfaction with products/services has an important impact on the loyalty of customers (see Bitner, 1990; Dick and Basu, 1994; Oliver, 1999; Nam, Ekinci and Whyatt, 2011).

In a classic sense, loyalty can be defined as the repetitive sequence of purchasing a particular brand (Cunningham, 1956), or as an individual's desire for a brand to remain stable for a period of time (Tucker, 1964). Dick and Basu (1994) define loyalty as the relationship between an attitude towards an entity (e.g. a brand, service, or sales) and a repetitive behavior (for more about repetitive behavior, see LaBarbera and Mazursky, 1983; Taylor and Baker, 1994; Zeithaml, Berry and Parasuraman, 1996; Bolton, 1998; Rauyruen and Miller, 2007; Saaty, 2011; Guillén, Nielson, Scheike and Pérez-Marin, 2012; Khan, 2012). In practice, loyal customers refer and recommend the products and services of the brand they are loyal to to their colleagues (McIlroy and Barnett, 2000). According to Delgado-Ballester and Munuera-Aleman (2001, apud Roy, 2012), the main advantages of customers' loyalty are:

- A substantial entry barrier to competitors.
- An increase in the firm's ability to respond to competitive threats.
- Greater sales and revenues.
- A customer base less sensitive to the marketing efforts of competitors.

Others works (e.g.: Rowley, 2005) identified other advantages from customers' loyalty, such as lower customer price sensitivity, reduced expenditure on attracting new customers and improved organizational profitability. However, this is not a customer loyalty guarantee. Ganesh, Arnold and Reynolds (2000) refer that:

- i) Not all customers should be targeted with retention and loyalty efforts;*
- ii) some of the most satisfied and loyal customers might still switch for reasons beyond the control of the firm and at times even beyond the control of the customer.*

Durvasula, Lysonski, Mehta and Tang (2004) also find that satisfaction is positively associated with customers' repurchase intentions, but is weakly associated with customers' willingness to make recommendations to others. The findings of Lin and Wu (2011) show that quality, commitment, and trust are also statistically associated with customer satisfaction and customer retention.

Customer's lifetime value

According to Becker, Spann and Schulze (2014), "subscriptions with minimum contract durations do indeed help companies to successfully retain customers". They also conclude that incentives attract customers who would not be retained in other ways, suggesting that companies should pay special attention to minimum contract durations as well as incentives.

According to Homburg, Droll and Totzek (2008), firms that use customer prioritization strategies improve average customer profitability as well as the return on sales, mainly because: *i) it affects relationships with top-tier customers positively but does not affect relationships with bottom-tier customers; ii) it reduces marketing and sales costs.*

According to Homburg, Droll and Totzek (2014), other important issues are related with:

- i) The ability to assess customer profitability;
- ii) The quality of the information gave to customers;
- iii) Selective organizational alignment;
- iv) Selective senior-level involvement;
- v) And selective elaboration of planning and control because they positively moderate the link between a firm's prioritization strategy and actual customer prioritization.

Thus, customization can be an important strategy for increasing customer satisfaction and loyalty. According to Shugan (2005), many companies operating on the Internet show a level of customization such as one-to-one customer service.

Given the importance of customer satisfaction in the success of supply chain management, this paper investigates the impact of intermediaries and insurers on consumer satisfaction (in line with Rai, Patnayakuni and Seth, 2006 apud Jean, Sinkovics and Kim, 2008).

2.3. INSURANCE DISTRIBUTION

Intermediaries play a very important role in the insurance sector. Their recommendation has a significant impact on customers buying process, satisfaction and loyalty. Regarding these last two concepts, insurance sector has some particularities. Usually loyal behaviors exist between intermediaries and customers (B2C), and not between customers and insurers. Eventually this leads to high churn rates in the insurance sector (see Short, Graefe and Schoen, 2003). In this context, the fact that keeping an existing customer can cost six times less than bringing a new customer (Rosenberg and Czepiel, 1984) represents a major motivation for business organizations to retain customers. According to The Council of Insurance Agents & Brokers (TCIAB, 2015), *insurance intermediaries facilitate the placement and purchase of insurance, and provide services to insurance companies and consumers that complement the insurance placement process*. According to Eckardt and Rathke-Doppner (2010):

The profound information asymmetries between consumers and insurance companies have resulted in the evolution of institutions that mediate between consumers and insurance companies. Insurance intermediaries such as exclusive agents and insurance brokers hold an important position as matchmakers between the supply and demand sides on insurance markets.

Rose (1999) presents different cost reductions from intermediaries' service, such as search costs, information costs, opportunity costs (for more specific understanding, see Table 28).

Transaction stages	Intermediary service	Cost reduction
Searching and matching	<ul style="list-style-type: none"> • Direct sales of information • Matchmaking • Market-making 	<ul style="list-style-type: none"> • Search costs • Information costs • Opportunity costs of time
Availability or products and immediacy	<ul style="list-style-type: none"> • Compensation of variances in demand and supply 	<ul style="list-style-type: none"> • Opportunity costs of time
Negotiating and contracting	<ul style="list-style-type: none"> • Strong bargaining position • Exploitation of differences in contract terms between supply and demand market side • To standardize contracts 	<ul style="list-style-type: none"> • Negotiation costs • Information costs • Administrative costs • Opportunity cost of time
Monitoring and guaranteeing	<ul style="list-style-type: none"> • Expertise in determining product and service quality • Cross-sectional and temporal reuse of information • Guaranteeing high product quality 	<ul style="list-style-type: none"> • Information costs • Monitoring and control costs • Costs resulting from uncertainty • Investment in expertise

TABLE 28: TRANSACTION COST REDUCTION FROM INTERMEDIARIES
(ROSE, 1999)

There are different channels of insurance products distribution, such as intermediaries (e.g.: multibrand intermediaries, brokers, reinsurance, banks, postal, etc.) and direct sell

(insurers). The intermediary's recommendation plays an important role in insurance sales (see Doney and Cannon, 1997; Jap, 2000; Beloucif, Donaldson and Kazanci, 2004; Chang, 2006; O'Loughlin and Szmigin, 2007; Robson and Sekhon, 2011; Brophy, 2013).

Because insurance intermediaries are the main insurance customer–firm interaction touch point in Portugal, and because they are market leaders in terms of sales (see Table 29), this investigation analyzes the relevance of insurers and intermediaries on the consumer experience (Jean, Sinkovics and Kim, 2008). This issue is particularly important in the insurance industry if we consider that “when performance levels and service offering become too similar within an industry, price is the the only competitive weapon that remains” (see Bolton, Gustafsson, McColl-Kennedy, Sirianni and Tse, 2014).

Structure of distribution channels		
	Non-life (%)	Life (%)
Intermediaries	89.7	95.3
Tied and captive agents	17.1	77
Brokers	17.6	1
Multi-brand intermediaries	54	17.3
Reinsurance	0	0
Of which: banks	16.1	76.7
Of which: postal	0	8.3
Direct Sell	9.8	4.5
Office	8.1	4.5
Internet	0.3	0
Phone	1.5	0
Others	0.5	0.2

TABLE 29: STRUCTURE OF INSURANCE DISTRIBUTION CHANNELS IN 2013
(“ASSOCIAÇÃO PORTUGUESA DE SEGUROS”, I.E., PORTUGUESE
ASSOCIATION OF INSURANCE, 2014)

STUDY 1

3. METHODOLOGY

3.1. SAMPLE

Data was collected from 366 consumers of car insurance. 60.1% were men and 39.9% women (age: mean=43.79; standard deviation=12.209; minimum=19; maximum=80). The sample error is ± 5.12 ($p=q=50$), with a level of confidence of 95% ($k=2$ sigma).

3.2. DATA COLLECTION

In order to respond to the scientific and managerial challenge of insurer y (development of a simple tool that could be quickly applied to study customer satisfaction), the procedure for collecting data for this study encompassed two important stages:

- Stage 1: In order to identify the most important attributes, authors carried out three focus groups. Two of these focus groups were conducted in the B2C market (customers) and one in the B2B (intermediaries). Selected attributes were:
 - Number of insurance proposals presented by intermediaries;
 - Intermediaries' recommendation was explained;
 - Problems' resolution by intermediaries;
 - Problems' resolution by insurers;
 - Insurers' fast response to customers' problems;
 - Online services from insurers;
 - Contact made by insurers to know if there was any problem;
 - Payment facilities;
 - Quality of services from insurers;
 - Quality of services from intermediaries.

- Stage 2: Data were collected through personal interviews, using an *ad hoc* questionnaire developed specifically for this research. Interviews took approximately 20 minutes each to be completed and they were conducted during July 2013.

4. RESULTS

4.1. DESCRIPTIVE ANALYSIS

As can be seen from Table 30, the higher results are mostly related with intermediaries. For example: i) the services' quality provided by intermediaries is evaluated with a 4.12, while insurers with a 3.88; ii) resolution of problems by intermediaries gets 4, while insurers get 3.77.

These results are even more relevant if we consider the fact that expectations are higher for intermediaries than for insurers (3.42 and 3.19, respectively). It is also important to highlight the level of satisfaction with intermediaries and insurers, as intermediaries have a higher rating for this attribute (4.38 and 4.01, respectively). The only negative evaluation is related to contact made by insurers (2.88). Finally, it is important to note that two elements related to intermediaries present a high standard deviation: the explanation of intermediaries' recommendations, and the number of products presented to customers (1.012 and .988, respectively). This may mean that there are many customers who are unsatisfied with the performance of these attributes.

Code	Items	Mean	Standard Deviation
Bro_1	Number of insurance proposals presented by intermediaries	3,57	0,988
Bro_2	Intermediaries' recommendation was explained	3,88	1,012
Bro_3	Problems' resolution by intermediaries	4	0,939
Ins_1	Problems' resolution by insurers	3,77	0,876
Ins_2	Insurers' fast response to customers' problems	3,71	0,848
Ins_3	Online services from insurers	3,24	0,881
Ins_4	Contact made by insurers to know if there was any problem	2,88	0,872
Ins_5	Payment facilities	3,8	0,951
Qual_i	Quality of services from insurers	3,88	0,593
Qual_b	Quality of services from intermediaries	4,12	0,772
Exp_i	Expectation-experience with your insurer	3,19	0,516
Exp_b	Expectation-experience with your intermediary	3,42	0,699
Sat_i	Satisfaction with insurers	4,01	0,719
Sat_b	Satisfaction with intermediaries	4,38	0,785

TABLE 30: DESCRIPTIVE ANALYSIS

4.2. MEASUREMENT MODEL

The first step was to perform an exploratory factor analysis in order to understand how our data was composed in terms of dimensions. We used the maximum likelihood (ML) method for extraction and PROMAX for rotation. After analyzing communalities, we removed items with values lower than 0.3 (“ins_3”, “ins_4”, “ins_5” and “exp_i”). Our model was then able to explain 61.871% of the data.

Factor	Initial eigenvalues			Extraction Sums of Squared Loadings			Rotation sums of Squared Loadings ^a
	Total	% of variance	Cumulative%	Total	% of variance	Cumulative%	Total
1	4,32	43,201	43,201	3,7	36,997	36,997	3,141
2	1,598	15,984	59,185	1,535	15,35	52,347	2,975
3	1,322	13,22	72,406	0,952	9,524	61,871	2,395
4	0,761	7,607	80,013				
5	0,494	4,939	84,952				
6	0,486	4,86	89,812				
7	0,33	3,302	93,114				
8	0,299	2,99	96,104				
9	0,203	2,028	98,132				
10	0,187	1,868	100				

Extraction method: Maximum Likelihood

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance

TABLE 31: TOTAL VARIANCE EXPLAINED

Kaiser-Meyer-Olkin value obtained is 0.775, indicating a good fit.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.775
Bartlett's Test of Sphericity		Approx. Chi-square 1816.927
		df 45
		Sig. .000

TABLE 32: KMO AND BARTLETT'S TEST

According to Table 33, it is possible to identify three factors:

- **Factor 1:** Quality of services provided by intermediaries, quality of services provided by insurers, expectation–experience with insurers, expectation–experience with intermediaries, satisfaction with insurers and satisfaction with intermediaries.
 - This factor is related to “overall satisfaction” of customers.
- **Factor 2:** Resolution of problems by intermediaries, number of products presented by intermediaries and explanations given by intermediaries about their recommendation.
 - This factor is related to actions that customers value most about intermediaries.
- **Factor 3:** Time taken by insurers in order to solve customers’ problems and positive resolution of problems by insurers.
 - This factor is related to actions that customers value most about insurers.

Items	Factor		
	1	2	3
Bro_1		0,788	
Bro_2		0,869	
Bro_3		0,681	
Ins_1			0,935
Ins_2			0,807
Qual_I	0,551		
Qual_B	0,725		
Exp_B	0,455		
Sat_I	0,581		
Sat_B	0,887		

Extraction method: Maximum Likelihood

Rotation method: Promax com with Kaiser Normalization

a. Rotation converged in 6 iterations.

TABLE 33: PATTERN MATRIX

All loadings are greater than 0.3 (Table 33), so convergent validity is achieved. There are no correlations between factors greater than 0.7 (Table 34) or cross loadings (see Table 33).

Factor	1	2	3
1	1,000	,523	,350
2	,523	1,000	,325
3	,350	,325	1,000

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.

TABLE 34: FACTOR CORRELATION MATRIX

RELIABILITY ANALYSIS

In order to measure reliability, we used Cronbach's alpha with a cut-off value of 0.7 (see Nunnally, 1978). For the overall scale Cronbach's alpha is 0.848. Cronbach's alpha for factor 1, 2 and 3, are 0.848, 0.866 and 0.798 respectively. The measurement model has an acceptable fit to data. The chi-square of the measurement model is significant ($\chi^2=118.090$, $df=29$, $p<0.001$). As the chi-square value is sensitive to sample size, we present additional fit indices: NFI=0.935, GFI=0.945, CFI=0.950, RMSEA=0.096. So, the model has an acceptable fit.

MULTICOLLINEARITY ANALYSIS

According to Hair, Anderson, Tatham and Black (2005), the Variance Inflation Factor (VIF) value should be 10 or less in order to achieve acceptable level of collinearity. In our model, VIF value is 4.072.

Items		Standardized loadings	
Sat	<---	Bro	0,799*
Sat	<---	Ins	-0,145
Ins_2	<---	Ins	0,791*
Ins_1	<---	Ins	0,992*
Bro_3	<---	Bro	0,91*
Bro_2	<---	Bro	0,754*
Bro_1	<---	Bro	0,675*
Sat_B	<---	Sat	0,763*
Sat_I	<---	Sat	0,364*
Exp_B	<---	Sat	0,539*
Qual_B	<---	Sat	0,946*
Qual_I	<---	Sat	0,493*
*Significant (p<0.001)			
Intermediaries' performance (Alpha=0.866)			
Insurers' performance (Alpha=0.798)			
Customers' satisfaction (Alpha=0.848)			

TABLE 35: MEASUREMENT INFORMATION

All items are statistically significant, except the insurer construct.

Regression Weights: (Group number 1 - Default model)						
			Estimate	S.E.	C.R.	P
Sat	<---	Bro	,261	,044	5,901	***
Sat	<---	Ins	-,057	,023	-2,490	0,013
Ins_2	<---	Ins	1,000			
Ins_1	<---	Ins	1,269	,119	10,690	***
Bro_3	<---	Bro	1,000			
Bro_2	<---	Bro	,880	,060	14,626	***
Bro_1	<---	Bro	,792	,062	12,716	***
Sat_B	<---	Sat	2,304	,318	7,246	***
Sat_I	<---	Sat	1,000			
Exp_B	<---	Sat	1,448	,248	5,833	***
Qual_B	<---	Sat	2,762	,416	6,638	***
Qual_I	<---	Sat	1,106	,142	7,813	***

TABLE 36: REGRESSION WEIGHTS

The final model is able to explain 55% of the data. However, the effect of satisfaction with the insurer is not statistically significant ($\beta = -.057$; $p = 0.013$). This seems to indicate that customer satisfaction can be explained to a large degree with reference to an intermediary's recommendation ($\beta = .261$; $p < 0.001$).

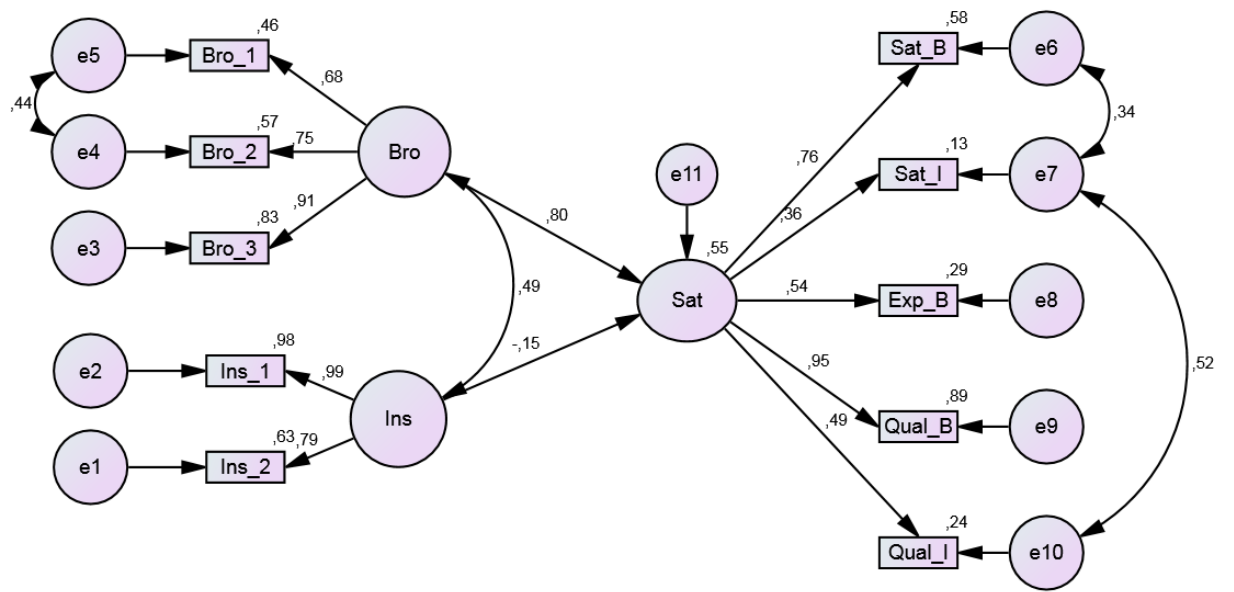


FIGURE 3: CAUSAL MODEL

STUDY 2

5. METHODOLOGY

5.1. SAMPLE

Data was collected from 433 insurance customers (59.7% men; 40.3% women), aged between 20 and 80 years old (Mean=43.95; Standard Deviation=12.195). The sample error was $\pm 4.71\%$ ($p=q=50$), with confidence level of 95% ($k=2$ sigma).

5.2. ATTRIBUTES' SELECTION

In order to simplify the respondents' task, seven attributes were finally selected:

- Online services from insurers;
- Contact made by insurers to know if there was any problem;
- Promotion;
- Insurer;
- Intermediaries' recommendation;
- Premium (price);
- Resolution problem.

5.3. PROCEDURE

Data were gathered based on a rectangular matrix of 433 x 7 (subjects x attributes). Subjects were asked to order seven attributes based on their preferences. We used ALSCAL during this procedure because it incorporates individual differences in multidimensional scaling models with the multidimensional unfolding (MDU) model. ALSCAL uses the alternating least squares approach (see Takane, Young and de Leeuw, 1977).

6. RESULTS

Model's fit is good (Stress =0.077; RSQ =0.994). Figure 4 shows the bidimensional solution. Attributes such as “online services”, “insurers’ contacts” and “product promotion” are related, and insurers are very close to those attributes.

Interestingly, intermediaries’ recommendation appears between “insurers” and “premium” resembling its role of intermediation. Also, “the resolution of problems” is closer to “intermediaries” than to insurers.

If the figure is carefully analyzed, the most part of customers gives more importance to:

i) premium; ii) resolution of problems; iii) intermediaries’ recommendation.

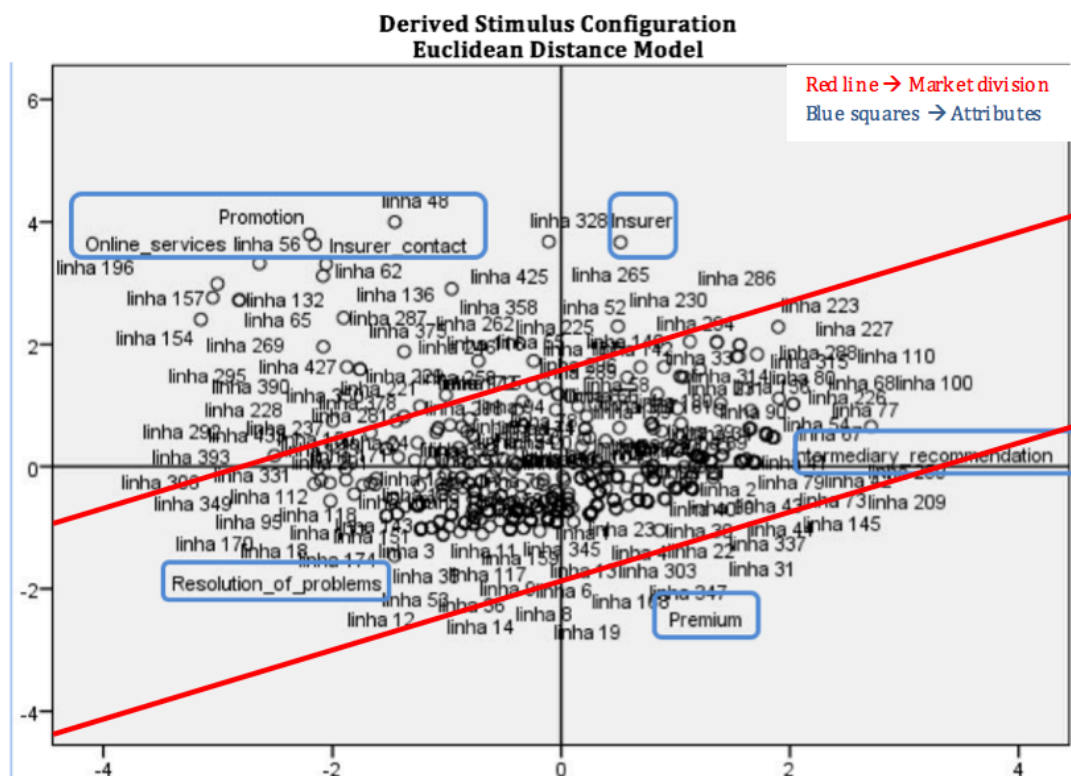


FIGURE 4: PERCEPTUAL MAP FROM MULTIDIMENSIONAL UNFOLDING (MDU)

Through the figure 6 it is possible to observe in more detail how customers' preferences are structured exactly as the main dynamics of the insurance market. More specifically, the the dynamics of the insurance supply chain. Concretely:

- Dimension 1 (vertical) shows premium as being communicated by intermediaries but estimated by insurers (highlighted in green);
- On the one hand, dimension 2 (horizontal) indicates that the resolution of problems/claims in the insurance business is closer to the intermediaries, albeit it always depends on the insurers (e.g.: insurance expertise). On the other hand, online services used for claims management are provided by insurers (highlighted in orange).

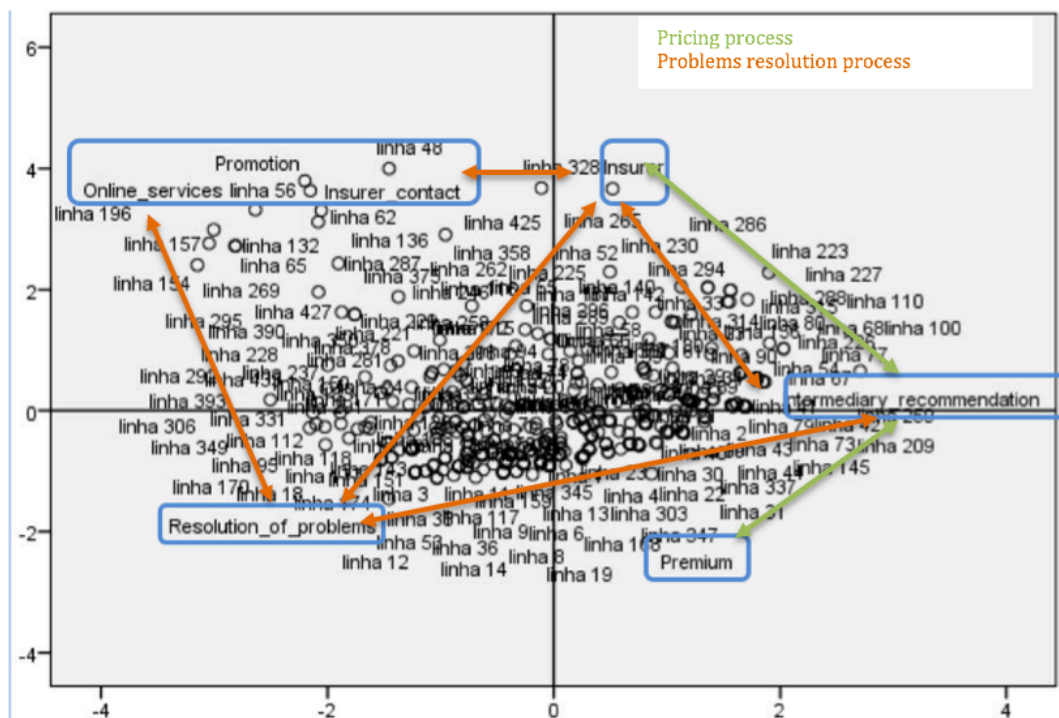


FIGURE 5: CUSTOMERS' PREFERENCES AND THE DYNAMICS OF THE INSURANCE MARKET

7. CONCLUSIONS AND DISCUSSION

The insurance sector has some unique characteristics and functionalities. Generally, insurance customers buy products from intermediaries, and only in a few cases directly from insurers. Intermediaries have the majority of the market share, making them a key player in the insurance market (distribution).

Qualitative results from the three focus groups (with intermediaries and customers) have allowed us to identify 14 items that most affect insurance customer satisfaction.

After obtaining quantitative data, an exploratory factor analysis was performed, identifying three constructs/factors: a) one was related to the time taken by insurers in order to solve customers' problems (claims management) in an appropriate manner; b) another one related to the actions that customers value most in intermediaries; c) and another one related to the "overall satisfaction" of customers.

Of those 14 items, four did not fit well in the model. Thus, the final model had three elements associated with intermediaries, two elements associated with insurers and five elements related with the expectation–experience and "overall satisfaction" of customers. The final model was able to explain 55% of the data.

The most interesting result indicates that customers' satisfaction associated to insurers is not statistically significant in customers' global satisfaction. This can be explained because customers are loyal to intermediaries and not so much with insurers (Chang, 2006; O'Loughlin and Szmigin, 2007; Eckardt and Rathke-Doppner, 2010; Robson and Sekhon, 2011; Brophy, 2013).

Regarding the preferences of insurance customers, purchase decision is mainly based in three characteristics: a) the ability to solve problems (claims management); b) the premium; c) and the recommendation of intermediaries. Interestingly, the majority of the customers surveyed seems to associate more intermediaries to the resolution of problems (claims management) and premium negotiation than to insurers. There are just a few respondents who give greater importance to insurers than to intermediaries.

Finally, it is also interesting to find that customers preferences present similarities with the insurance supply chain. Concretely, it is possible to compare two important processes. One is related with premium and it seems that the recommendation of

intermediaries plays a central role in premium acceptance from customers (in line with O'Loughlin and Szmigin, 2007; Eckardt and Rathke-Doppner, 2010; Robson and Sekhon, 2011; Brophy, 2013), although premium is estimated by insurers. In this sense, insurers should develop a closer partnership with intermediaries. In this context, there are specific marketing strategies associated with the level of customers' financial involvement. For example, insurers and intermediaries should exchange more information about customers' preferences; or it should be presented products with more coverage and services associated (such as online Web service platform, account manager) for customers who buy more expensive products. This way, it would be possible to prevent customers comparing products with low prices (in line with Gázquez-Abad and Sánchez-Pérez, 2009) and increase the attractiveness of products.

The other process is related to the resolution of problems (claims management). In order to improve partnerships between insurers and intermediaries, it is important to improve the online claims management services provided by insurers. Currently, intermediaries spend too many resources (e.g.: time and money) in managing customers' claims. This way, customers would more more satisfied with insurers as well as with intermediaries. Also, intermediaries would certainly prefer insurers that provide better claim management services. Because of the crucial importance of these service employees (e.g.: intermediaries), better training should be provided (see Bateson, Wirtz, Burke and Vaughan, 2014). Intermediaries (as frontline employees) can play a more important role in insurance customers experience if they have better back office services provided by insurers (see Bolton et al., 2014).

Limitations and further research

The questionnaire developed in this study has already received a positive feedback from two insurer operating in the Portuguese market because it easy to administrate through telephonic inquiry and results are very important in terms of services supply management. However, the questionnaire can still be improved.

In this study it was not developed nor tested an IT that could improve the supply chain related to claims management. In this sense, we suggest carrying out focus groups

(composed by insurers, intermediaries, customers and IT developers and programmers)
in order to develop an online tool that would improve claims management.

CHAPTER IV – CONCLUSIONS, LIMITATIONS AND FURTHER RESEARCH

GENERAL CONCLUSIONS

The main purpose of this study was to analyze the insurance market from a marketing strategy perspective. Much of the literature on the insurance industry focuses on actuarial models, risk management, regulation. So, this study investigated three critical topics:

1. The determinants of consumer price sensitivity through four important hypotheses;
2. The importance of the strategic order of products' attributes presentation in the insurance market;
3. The individual relevance of insurers and intermediaries on customers' satisfaction and preferences.

The first topic was analyzed based on four hypotheses. Hypothesis 1 stated that customers with a higher financial involvement with products were less price sensitive. Results confirmed this hypothesis. Hypothesis 2 stated that loyal customers were less price sensitive. Statically, this hypothesis was not confirmed but findings show some differences that cannot be neglected in terms of marketing strategies in the insurance sector such as loyal programs. Hypothesis 3 affirmed that loyal customers were more sensitive to price bundling strategies than nonloyal customers. Findings confirmed this hypothesis, so bundling strategies could play an important role in product and service differentiation instead of traditional price discounts. Considering the combined result of hypotheses 3 and 4, brands and intermediaries must be aware that, although loyal customers can accept some degree of price oscillation, they still give great importance to price. This may indicate that both insurers and intermediaries may be more likely to be successful in increasing their revenues through bundling strategies than by simply increasing price. Finally, hypothesis 4 indicated that partitioned prices had better acceptance than combined prices. Therefore, salespeople should pay special attention to these results when they use price bundling strategies.

In the second topic - the importance of the strategic order of products' attributes presentation in the insurance market – some interesting results were also obtained. For instance, when price is presented at the end and is preceded by a relevant attribute (such as the intermediary's recommendation), its importance is lower. Concerning the use of price bundling, a primacy effect was detected, because when this attribute is presented at the beginning, it gets its highest importance.

Finally, the third topic - The individual relevance of insurers and intermediaries on customers' satisfaction and preferences – important results were obtained. Only intermediaries have a statistic impact on consumers' satisfaction. This results do not mean that insurers have no impact on consumers' satisfaction, but it is the intermediaries that usually manage customers' claims. This finding seems to be confirmed through the similarities that exist between consumers' preferences and the insurance supply chain.

THEORETICAL CONTRIBUTIONS

This study addresses some important gaps in the insurance services marketing literature. Concretely, chapter I analyzes the specific importance of key characteristics (attributes) in the insurance sector. It also analyzes some determinants of consumers' price sensitivity in the insurance market, as well as some determinants of price bundling strategies. This studies demonstrates that consumers' financial involvement has a statistical impact on price sensitivity and that loyalty behaviors increase consumers' price bundling acceptance. Finally, price elasticity of demand is elastic, customers are sensitive to this price bundling.

In chapter II, the order of attributes presentation is studied in order to cover a concrete gap in the literature: how important is the strategic order of products' attributes presentation in the insurance business. Primacy, recency and transfer effects were detected.

In chapter III, the main aim was to try to understand if insurance customers' satisfaction is more affected by insurers or intermediaries, and understand insurance customers'

preferences. Findings show that customers' satisfaction is statistically affected by intermediaries and that insurance customers' preferences follow a similar dynamic as the insurance market supply chain, i.e., it depends primarily on intermediaries.

MANAGERIAL IMPLICATIONS

In short, intermediaries play a central role in the insurance market dynamics and insurance supply chain, as well as in customers' satisfaction. In order to increase intermediaries' preference, insurers should increase their support and partnership with intermediaries as mentioned by Hawksby (2015). This would be especially important in terms of claims management services. Price bundling increases insurers and intermediaries' revenues and profits. So, they should be used more often. In order to decrease the importance of premium, salespeople should present first the insurer, followed by the bundling strategy, the intermediary's recommendation and, finally, the premium.

LIMITATIONS AND FURTHER RESEARCH

The sample used in the study of consumers' acceptance of partitioned price versus combined price was 42 (n=42). In future researches it would be important to have a larger sample. Intermediaries could play an important role giving qualitative feedback on how customers react to bundling strategies and what could be other anchor products and complementary products. It would be interesting to analyze if bundling strategies are truly able to improve loyalty programs and to bring new customers.

It would be interesting to develop long-term agreements with loyal customers of 3 years with some benefits, such as more coverage, freezing the price of auto insurance during the 3 years, increase cross-selling offers (e.g., auto insurance, home insurance, and health insurance).

It could also be important to offer an integrated advisory service based on a dedicated online Web service platform, an account manager (as in banking), and a specialized salesperson in order to convert a standard transactional sale to a customer relationship marketing, i.e., CRM (Sheth, 2002; Baron, Warnaby, and Hunter-Jones, 2014).

It would be interesting to study if it is better that insurers and intermediaries present first products with more coverage and services associated (e.g., online Web service platform, account manager) to prevent customers comparing products with low prices (in line with Gázquez-Abad and Sánchez-Pérez, 2009).

It would be also interesting to test different anchor products as well as different bundling combinations. It would also be interesting to study the ideal number of products that would compose the bundling strategy, for example, two anchor products and a price discount in the third product or different percentages of price discounts in the two associated products (e.g., home insurance and health insurance). It would be interesting to understand if the recommended order of attributes' presentation is able to improve sells.

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APPENDIX

In Chapter I and Chapter II

Selected Attributes and levels

- Intermediaries recommendation: i) yes; ii) opinion omitted;
- Premium: i) 150€ - Standard product through regulation (after the decree-law no. 72/2008, April 16th); ii) 200€ - the same coverage as the option of 150€ and vehicle occupants' insurance; iii) 250€ - the same coverage as the option of 200€ and auto glass insurance; iv) 300€ - the same coverage as the option of 250€ and theft coverage;
- Insurers: i) Fidelidade-Mundial; ii) Açoreana; iii) Allianz; iv) Tranquilidade;
- Price bundling (home insurance with a promotion discount, for just 30€): i) yes; ii) no.

In Chapter III

- Number of insurance proposals presented by intermediaries;
- Intermediaries' recommendation was explained;
- Problems' resolution by intermediaries;
- Problems' resolution by insurers;
- Insurers' fast response to customers' problems;
- Online services from insurers;
- Contact made by insurers to know if there was any problem;
- Payment facilities;
- Quality of services from insurers;
- Quality of services from intermediaries.